M307E 07.5.NF.7(1/2)
M307EN07

Nikon

COOLSCOPE II
< User's Manual >

There are two COOLSCOPE models available, reflecting the difference in magnification specifications: standard and wide-ranged. The COOLSCOPE User's Manual is based on the standard model.

If your model is the wide-ranged model [CS1DW], please read the following information in addition to the rest of the manual.

▼ About Magnification

Usable magnifications differ between the standard and wide-ranged models, as shown below:

Table: Product Specification and Magnifications

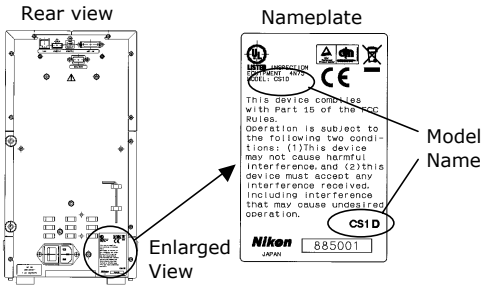
Product Specifications	Model	Magnification			
Standard	CS1D	5X	10X	20X	40X
Wide-ranged	CS1DW	2X	4X	20X	40X

Since only magnifications for the standard model [CS1D] appear in the user's manual, for the CS1DW, 5X and 10X should be replaced with 2X and 4X, respectively (the other magnifications—20X and 40X—apply to both models).

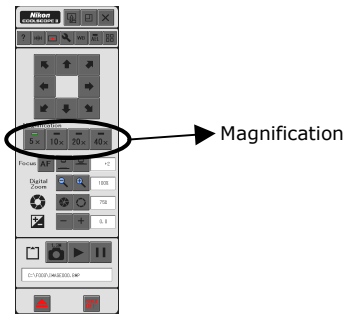
Example: "magnification is 5X" should read "magnification is 2X."

Note:

- The model name can be found on the nameplate on the rear of your COOLSCOPE.



- The current magnification is shown on the multi screen.



▼ Caution on using 2X and 4X magnifications

When using the COOLSCOPE with the magnification 2X or 4X, note the following:

▽ Aperture stop

The operable aperture stop range is from 65 to 100%.

Thank you for purchasing a Nikon product.

This instruction manual is written for users of Nikon COOLSCOPE CS1D.

To ensure correct usage, read this manual carefully before operating the product.

- No part of this manual may be reproduced or transmitted in any form without prior written permission from Nikon.
- The contents of this manual are subject to change without notice.
- Although every effort has been made to ensure the accuracy of this manual, errors or inconsistencies may remain. If you note any points that are unclear or incorrect, please contact your nearest Nikon representative.
- Some of the equipment described in this manual may not be included in the set you have purchased.
- If you intend to use any other equipment with this product, read the manual for that equipment too.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Warning and caution symbols used in this manual

Although Nikon product is designed to be completely safe during use, incorrect usage or failure to follow the safety instructions provided may cause personal injury or property damage and will lead to the forfeiture of warranty claims. To ensure correct usage, read the instruction manual carefully before using the product. Do not discard this manual and keep it handy for easy reference.

Safety instructions in this manual are marked with the following symbols to highlight their importance. For your safety, always follow the instructions marked with these symbols.

Symbol	Description
Warning	Disregarding instructions marked with this symbol may lead to serious injury or death.
Caution	Disregarding instructions marked with this symbol may lead to injury or property damage.

Meaning of the symbol indicated on the product

The symbol appearing on the product indicates the need for caution at all times during use. Always refer to the instruction manual and read the relevant instructions before manipulating any part to which the symbol has been affixed.

Biohazard

This symbol labeled on the specimen slide tray calls your attention to the following:

- Spilling a sample from a specimen slide onto the microscope expose you biohazard.
- To avoid biohazard, do not touch the contaminated part with your bare hands.
- Decontaminate the contaminated part according to the rules of your facility.

Caution

This symbol, provided at the following three positions of the COOLSCOPE, is intended to call your attention to each of the possible hazards, as follows:

- Tray door
  The specimen slide tray will come out approximately 10 cm from the front of the COOLSCOPE. Do not allow any object or your hand within approximately 10 cm of the front of the COOLSCOPE. In addition, do not look into the door through which the tray comes out.
- Port for a USB memory
  This port is used for a USB memory only. Do not connect other USB device such as a USB mouse.
- Left and right side covers
  Opening the left or right side cover will leave the internal mechanical parts exposed. Touching any such parts may result in injury. Before opening the left or right side cover, set the main power switch at the rear of the COOLSCOPE to the ○ position to turn off the main power, and remove the power-cord plug from the receptacle.
- Rear panel
  When connecting any peripheral, properly connect it to the correct terminal. Improper connection may result in malfunction.

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The "TM" and ® marks are not used to identify registered trademarks and trademarks in these instructions.

Safety Precautions

Please follow the safety precautions listed below.

Warning

1 Purpose of use

Use the COOLSCOPE for observation and image capture of specimen slides and not for any other purpose. The COOLSCOPE is primarily designed to conduct pathological and anatomical examination of cells and tissues, as well as to capture images.

2 Do not disassemble.

Disassembly may result in electric shock or malfunction. Never attempt to disassemble any sections of the COOLSCOPE other than as specifically described in this manual.
Contact your distributor if you encounter any problem with your COOLSCOPE.

3 Power cord

Use one of the power cords specified below. Use of an improper power cord can result in fire or other hazard. Also note that the COOLSCOPE is classified as subject to class I protection against electrical shock. Therefore, be sure to connect it to a protective ground terminal.

- **Using units in areas where the supply voltage is 100 to 120 V (excluding Japan)**
  UL Listed detachable power cord set, 3-conductor grounding Type SVT, NO.18 AWG, 3 m long maximum, rated at 125 V AC minimum.
- **Using units in areas where the supply voltage is 220 to 240 V**
  Approved according to EU/EN standards, 3-conductor grounding Type HO5VV-F, 3 m long maximum, rated at 250 V AC minimum.

To prevent electric shock, always turn off the main power switch (swith to "O") to the COOLSCOPE before attaching or detaching the power cord.

4 Hazardous specimens

The COOLSCOPE is intended primarily to conduct microscopic observation and capture images of cells and tissues in the specimen slide. Check in advance whether the specimen you will be handling is hazardous. Wear rubber gloves if the specimen is identified as hazardous (e.g., infectious) in nature. Be careful to avoid specimen leaks. If leaks occur from the specimen slide, decontaminate the contaminated area according to the standard procedure followed by your laboratory.

Caution

1 Shut off the power to the COOLSCOPE during maintenance work.

Always switch off the main power switch and remove the power cord plug from the receptacle before clamping and unclamping movable sections, detaching and attaching cables, cleaning of the surface of the glass in the tray bottom, cleaning of the objective or taking out a specimen slide accidentally left in the COOLSCOPE.

2 Avoid contact with water.

Spilling water onto the COOLSCOPE may cause a short, resulting in malfunction or anomalous heating. If water is splashed onto the COOLSCOPE, immediately switch off the main power switch at the rear (set it to the ○ position) and remove the power cord from the receptacle. Then wipe off moisture with a dry cloth or something similar. If water enters the COOLSCOPE, do not use it; in this case contact your nearest Nikon representative.

3 Do not place any object on top of the COOLSCOPE.

Do not place any object on top of the COOLSCOPE or cover it with a cloth or the like. The system temperature will rise, resulting in malfunction.

4 Precautions during assembly and installation

- Exercise caution not to catch your fingers or hands in the equipment during assembly and installation.
- The COOLSCOPE weighs around 18.5 kg. Hold it firmly by the recesses at its front and rear when transporting it.

- Do not install the COOLSCOPE against the wall. Leave space of at least 10 cm from the wall. Be sure to also provide 10 cm of space on top of the COOLSCOPE.
- Do not install the COOLSCOPE in a locker or cabinet.

Caution

5 Be careful of the sliding tray in the front of the device.

- A tray extends approximately 10 cm from the front of the COOLSCOPE.
- Position the COOLSCOPE properly on the table, making sure that there are no obstacles, in terms of both personnel and equipment, within an area approximately 10 cm from the front of the COOLSCOPE.
- Do not place your hand or any object in the area within approximately 10 cm from the front of the COOLSCOPE.
- Do not look into the tray door.
- Do not hold the tray with your hand or push or pull it by force.

6 Caution against long, continuous observation

To relieve fatigue as a result of long observation, limit your continuous observation time to one hour or less and take a 10- to 15-minute break between continuous observations. Adjust the layout of other equipment (such as the display and the mouse) in accordance with the position of the COOLSCOPE and the height of your chair.

7 Disposal of the COOLSCOPE

To avoid biohazard risk, dispose the COOLSCOPE as contaminated equipment according to the standard procedure of your laboratory.

Handling the COOLSCOPE

1 Handle the COOLSCOPE carefully.

The COOLSCOPE is a precision instrument. Avoid shocks and handle it carefully.
When transporting it by car, clamp its sections. For more information, please refer to Chapter XII, "Service and Maintenance."

2 Weak electromagnetic waves

The COOLSCOPE emits weak electromagnetic waves. Do not bring precision electronic devices close to it as this may degrade their performance. If you find that your TV or radio reception is affected, move the TV or radio slightly away from the COOLSCOPE.

3 Dirt on the tray's bottom glass and the objective

Dirt on the glass at the bottom of the tray or the objective will result in poor image quality.
Clean the glass according to the instructions in Chapter XII, "Service and Maintenance."

4 Removing the specimen slide if it is accidentally left in the COOLSCOPE

If the specimen slide is accidentally left in the COOLSCOPE due, for example, to malfunction, remove the specimen slide in accordance with the instructions given in "Chapter XII Service and Maintenance."

5 Installation location

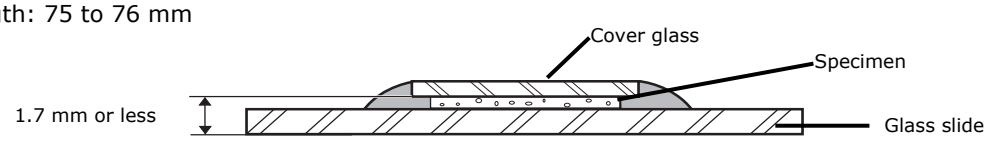
Since the COOLSCOPE is a precision instrument, its use or storage in an inappropriate environment may result in malfunction or degraded performance. Take the following into consideration when selecting an installation location:

- Select a vibration-free location and install the instrument on a level surface.
- Avoid locations exposed to direct sunlight or immediately under room light and bright locations.
- Avoid locations in areas of dust.
- Make sure that the temperature is 0 to 40° and the humidity is 60% or less. Installing the COOLSCOPE in a hot and humid location may cause mildew formation or condensation, resulting in degraded performance or malfunction.
- Do not install the COOLSCOPE against the wall. Leave space of at least 10 cm from the wall. Be sure to also provide 10 cm of space on top of the COOLSCOPE.
- Do not install the COOLSCOPE in a locker or cabinet.
- Select a layout that allows easy detachment of the power cord from the COOLSCOPE's AC inlet in the event of emergency.

6 Observable specimens

Specimens observable with the COOLSCOPE must consist of a single cover-glass-equipped specimen slide of the following size:

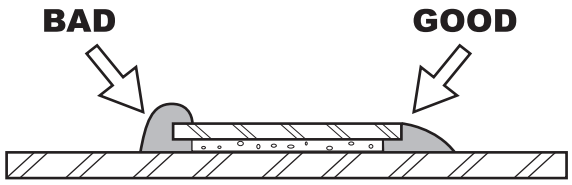
- Thickness: 1.7 mm or less [glass slide thickness + specimen thickness (excluding cover glass thickness)]
- Glass slide (Be sure to use a JIS R3703- or ISO 8037-compliant glass.)
  Thickness: 0.9 to 1.2 mm
  Width: 25 to 26 mm
  Length: 75 to 76 mm



- Cover glass (Be sure to use a JIS R3702- or ISO 8255-compliant glass.)

[JIS R3702]		
Thickness:	No.1:0.12 to 0.17mm	No.1-S:0.15 to 0.18mm
[ISO 8255]		
Thickness:	No.1:0.13 to 0.17mm	No.1-H:0.15 to 0.17mm

Exercise caution with unoccluded temporary specimen slides as these can stain the inside of the COOLSCOPE.
Be careful to prevent the occluding agent from rising excessively above the cover-glass top surface, as this may stain or damage the objective.



7 Unpacking and Unclamping

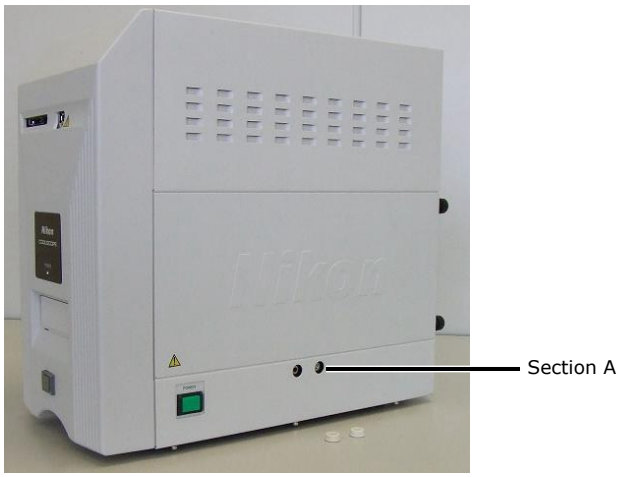
1) Check the contents to ensure that the package contains the following:

   - COOLSCOPE
   - Hex wrench
   - Ferrite core (attached to the mouse cable)
   - User's manual
   - CF card

2) Unclamp the movable sections of the power cord before connecting the cord.
   The power cord is clamped at three locations: A, B, and C.

Section A

Remove the cap from the right-hand side and turn the two internal bolts counterclockwise with the supplied hex wrench until they are completely loosened. These bolts will not come off even when fully loosened. Reattach the cap to its original position once the bolts are loosened.



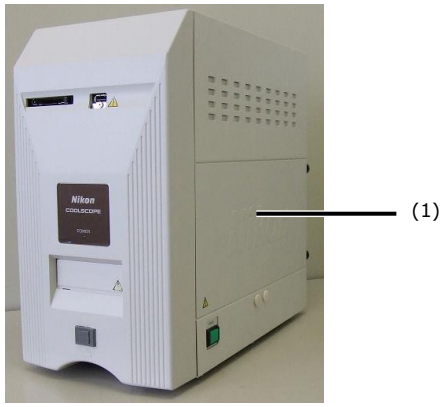
Sections B and C

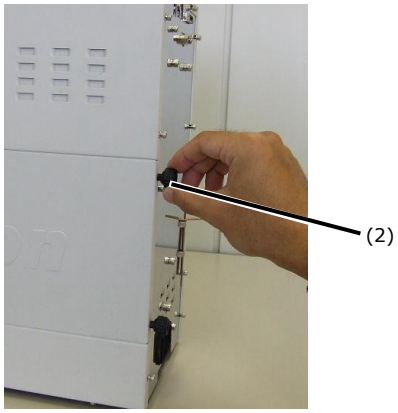
Detach the cover (1) on the right side. To do this, loosen the two thumbscrews (2) at the rear of the COOLSCOPE and slide the cover backward.

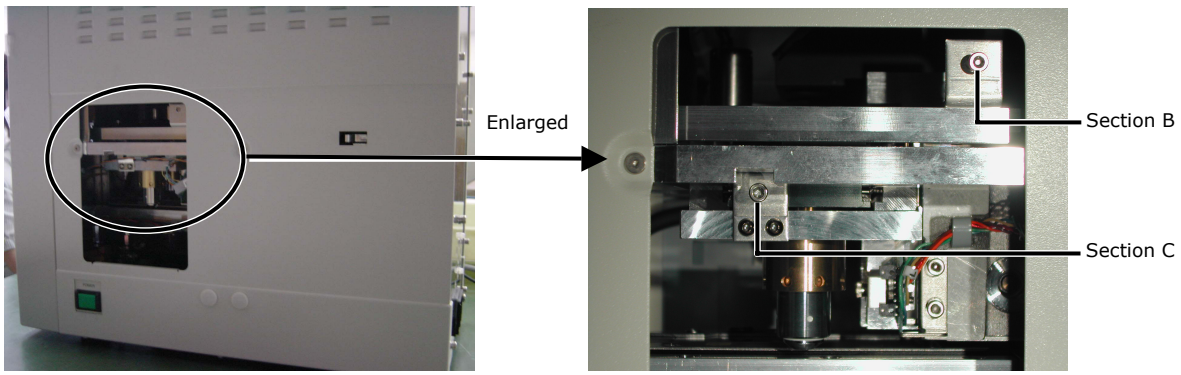
Turn the shiny metallic bolts in sections B and section C (one bolt in each) counterclockwise until they become loose (the bolts will not come off even when fully loosened). Keep the removed bolts in a safe location, along with the hex wrench, as these will be reused for future transportation of the COOLSCOPE.

Reattach the cover. If the cover is not properly reattached, a safety mechanism will prevent the COOLSCOPE from functioning.

Place the hex wrench in the hex-wrench holder at the rear of the COOLSCOPE.







The cover (1) on the right side is detached.

3) Do not discard the packing case, as it will need to be reused for future transportation.

How to use this manual

For first-time users of the COOLSCOPE

First read "Using the COOLSCOPE." This section will give you basic instructions on operating the instrument.

▼ **Chapter IV: Basic Observation Tasks**
This chapter describes basic observation tasks in sequence.

▼ **Chapter V: Basic Image-Capture Tasks**
This chapter describes basic image-capture tasks in sequence.

▼ **Chapter VI: More Sophisticated Tasks**
This chapter explains convenient functions not covered in the discussion of basic tasks.

▼ **Chapter VII: Details Menu**
This chapter explains the COOLSCOPE camera setup and display setup.

▼ **Chapter VIII: Networking Functions**
This chapter describes the procedure for connecting the COOLSCOPE to a network. Please refer to this chapter if it is necessary to save images to the external FTP server or remotely control the COOLSCOPE from an external PC using a WEB browser.

▼ **Chapter IX: Using Optional Accessories**
This chapter describes the procedure for connecting accessories to the COOLSCOPE and using them.

▼ **Chapter X: Connecting Peripherals**
This chapter presents the patterns of connection between the COOLSCOPE and various peripherals.

Notational conventions in the manual

Abbreviations

Abbreviation	Meaning
PC	Personal computer
CF card	Compact flash card

Mouse operation

Word	Meaning
Clicking	Moving the mouse pointer to the target item and pressing the left mouse button once.
Right-clicking	Moving the mouse pointer to the target item and pressing the right mouse button once.
Dragging	Moving the mouse pointer while pressing and holding the left mouse button.

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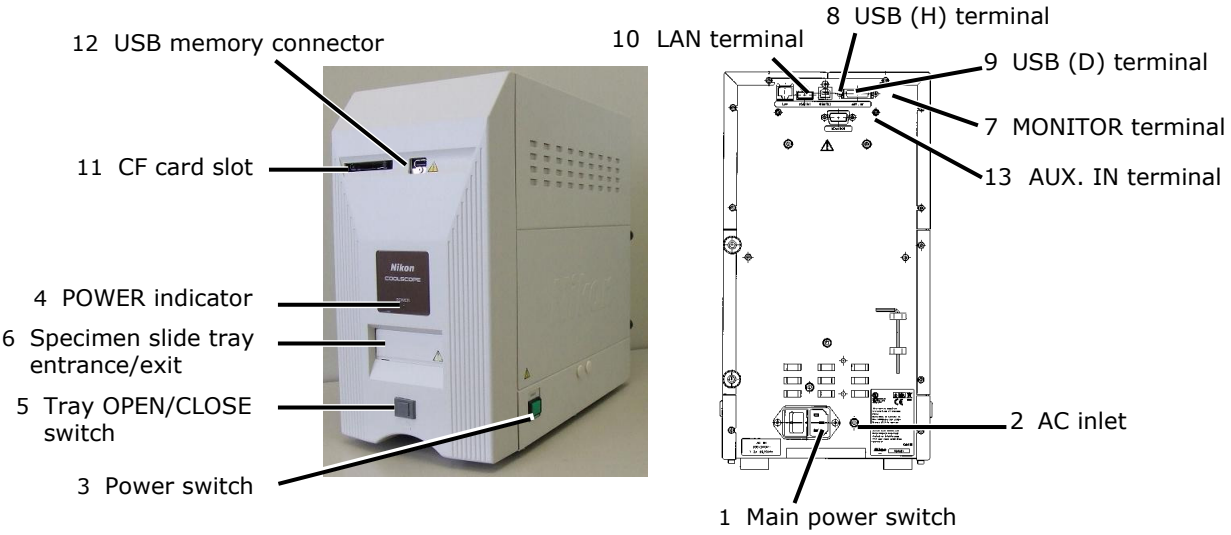
Name and Function of Each COOLSCOPE Part



No.	Name	Function
1	Main power switch	Set the switch to the | position to turn on the power. Normally, leave the power on.
2	AC inlet	Connect the supplied power cord here.
3	Power switch	Press this switch to turn on the power. You cannot turn off the power with this switch. Please refer to Chapter II, section 4, "Shutting down the COOLSCOPE," for instructions on turning off the power.
4	POWER indicator	This indicator is lit when the power is on.
5	Tray OPEN/CLOSE switch	The tray opens and closes alternately each time the switch is pressed.
6	Specimen slide tray entrance/exit opening	The specimen slide tray pops out and retracts through this opening. The door opens and closes automatically. ⚠ Caution: Do not look into this opening.
7	MONITOR terminal	Connect a display to this terminal with a D-sub 15-pin cable.
8	USB (H) terminal	Connect the USB mouse or other USB device to this terminal. ⚠ Caution: Do not insert a USB memory.
9	USB (D) terminal	The terminal is used to connect with a PC for data transmission or a PictBridge compatible printer for direct printing.
10	LAN terminal	This terminal is designed for network connection. Connect this terminal to the LAN terminal of an external PC or hub with a network cable (10BASE-T/100BASE-TX).
11	CF card slot	Insert the CF card into this slot. Press the button at the left edge of the slot to take out the card. Never attempt to insert or take out the card during a data write operation (while the LED indicator is lit).
12	USB memory connector	Connect a USB memory here. Do not insert or remove the USB memory when data transfer. ⚠ Caution: This port is used for a USB memory only. Do not connect other USB device such as a USB mouse.
13	AUX. IN terminal	Connect an external input device such as the ergonomic controller (D-ERG-C).

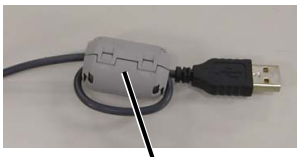
Connecting the COOLSCOPE and Peripherals

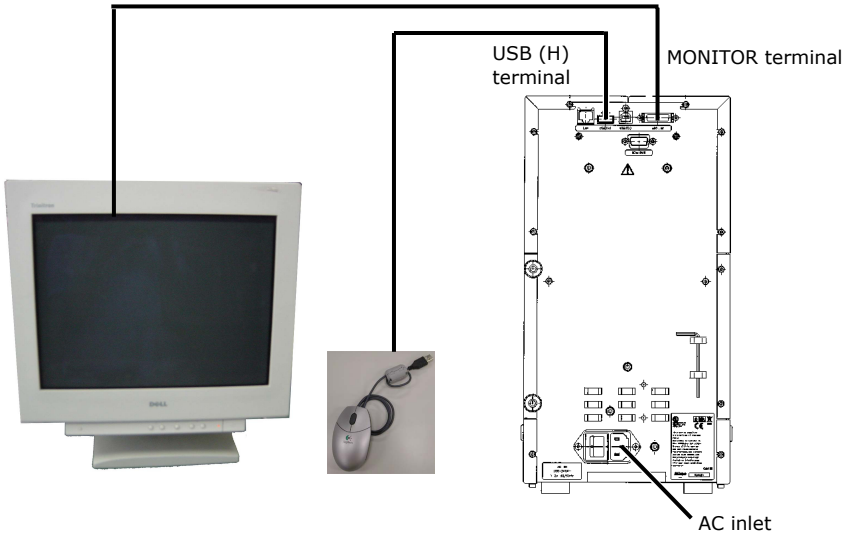
1 Required equipment

- COOLSCOPE
- Power cord
- CF card
- Monitor (analog RGB input)
  Use a PC monitor capable of TTL synchronization at SXGA 60 Hz.
- USB mouse (Use a Nikon-recommended product.)

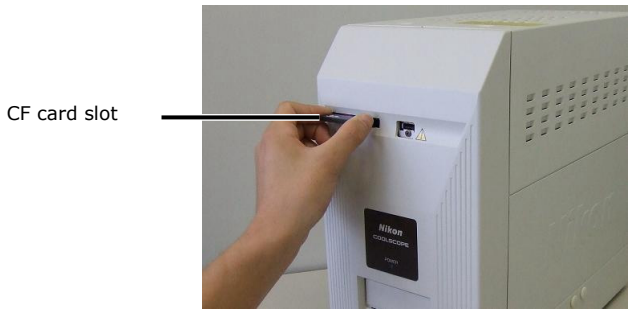
2 Making connections

1) Connect the display or projector to the COOLSCOPE's MONITOR terminal.
2) Wind one turn of the mouse cable on the ferrite core.
3) Connect the mouse to the COOLSCOPE's USB (H) terminal.
4) Connect the power cord to the COOLSCOPE's AC inlet.

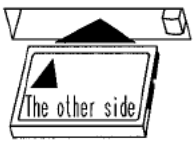




4) Insert the CF card into the CF card slot at the front of the COOLSCOPE.



Caution ! Be careful about the orientation of the CF card. Face the back side upward.

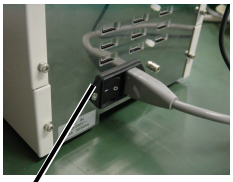


Basic Operation of the COOLSCOPE

1 Starting up the COOLSCOPE

Front

Back

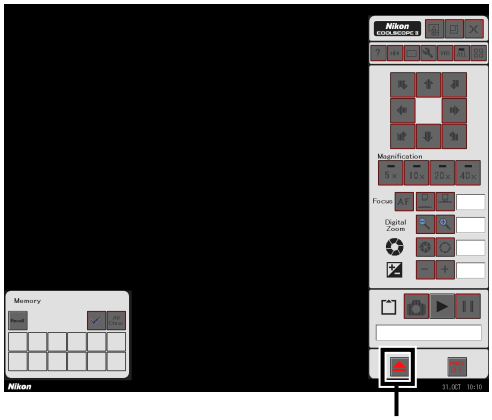


(1) Set the main power switch to the | position.

(2) Press the power switch.

After a moment the multi screen appears.

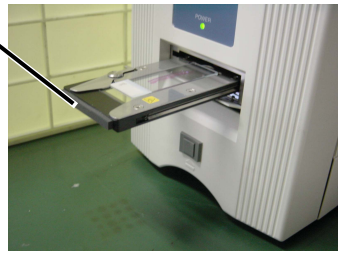
2 Placing a specimen slide in the COOLSCOPE



(3) Click on the [EJECT] button.

The COOLSCOPE tray opens.

(4) Place a specimen slide on the tray.



NOTE1: Open the specimen slide holder and place a specimen slide on the tray with the cover glass facing up. Position it properly, making sure it is not tilted.

NOTE2: To indicate information of a specimen, write it down in the area of the white paper label on the specimen slide. The area is located nearside and has an inside height of 15 mm. Or, use a specimen slide with white frost-processed surface and write the information with a black-pen.

(5) Close the tray by clicking on the [EJECT] button again.

⚠ **Caution:**

You cannot manually push the tray into the COOLSCOPE.

When a specimen slide is placed on the tray, the loaded image will be displayed.

3 Selecting an observation position

(6) Click on a desired observation position on the macro image.

4 Bringing the image into focus

(7) With 5X selected as magnification, click on the [AF] button.

5 Observing the specimen

(8) To move the viewing position, follow the steps described below.
- Click on a desired position on the micro or macro image.
- Click on the [MOVE] button .

(9) To change magnification, click on the [MAG.] button.

(10) To adjust the image focus, click on the [FOCUS] button.

6 Capturing the image

(11) Insert the CF card into the COOLSCOPE and click on the [SAVE] button.

▼ Please refer to Chapter V, "Basic Image-Capture Tasks," for more information.

7 Taking out the specimen slide

(12) Click on the [EJECT] button and take out the specimen slide. Close the tray by clicking again on the [EJECT] button.

⚠**Caution:**
You cannot manually push the tray into the COOLSCOPE.

8 Shutting down the COOLSCOPE

(13) Shut down the COOLSCOPE by clicking on the on-screen [POWER OFF] button.

NOTE: The COOLSCOPE cannot be shut down unless the specimen slide is first removed

I

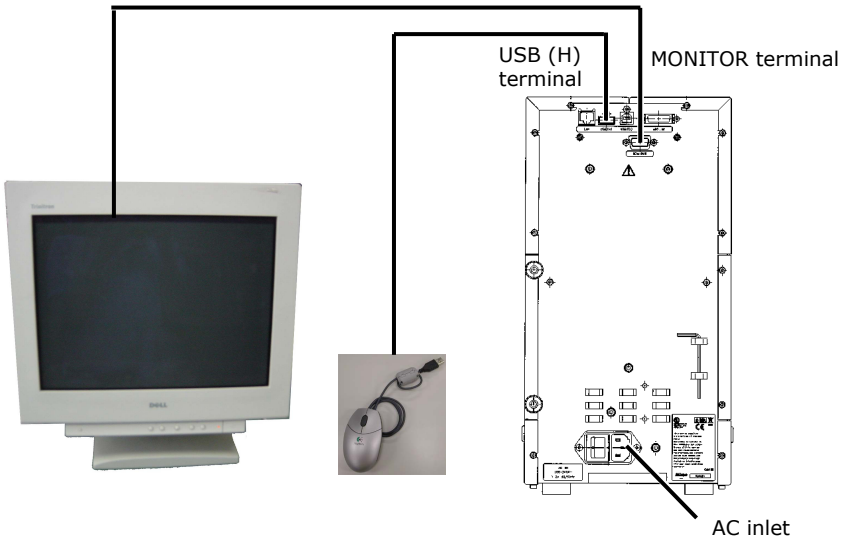
Connecting Equipment

1) Connect the display or projector to the COOLSCOPE's MONITOR terminal.

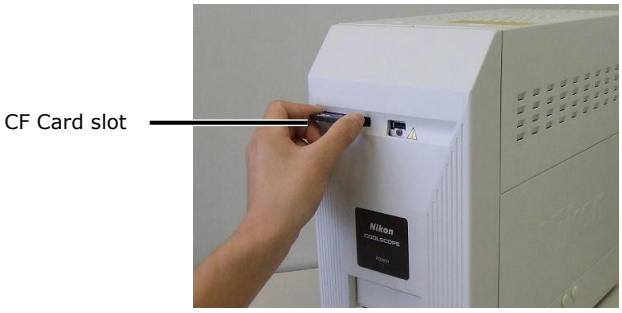
2) Wind one turn of the mouse cable on the ferrite core.

3) Connect the mouse to the COOLSCOPE's USB (H) terminal.

4) Connect the power cord to the COOLSCOPE's AC inlet.



4) Insert the CF card into the CF card slot at the front of the COOLSCOPE.

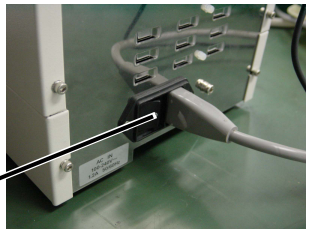


II

Starting up and the Shutting down the COOLSCOPE

1 Turning the Power on/off

Set the main power switch at the rear of the COOLSCOPE to the | position to turn on the main power.

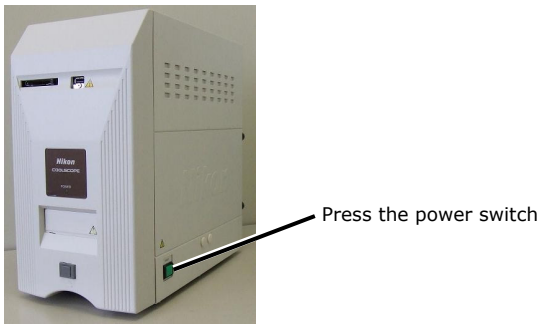


Main power switch to the | position.

Normally, leave the main power on.
If you do not intend to use the COOLSCOPE for extended periods, shut down the COOLSCOPE following the normal procedures. Then turn off the main power by setting the main power switch to the ○ position.

2 Startup

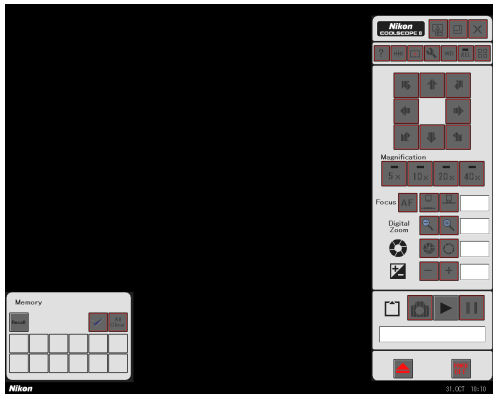
1) Press the power switch on the right side of the COOLSCOPE.



The title screen appears on the display.

Logo appearing on screen

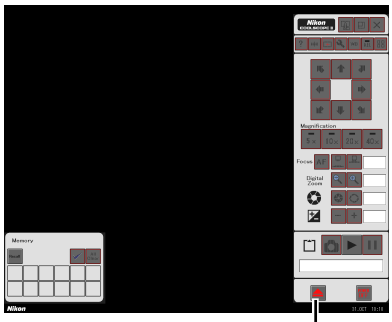
The multi screen is displayed when the COOLSCOPE is initialized.



3 Inserting and Removing a Specimen Slide

1) Open the tray to insert a specimen slide.
You can open the tray in one of two ways, as follows:

- **Click on the [EJECT] button on screen.**
- **Press the gray tray OPEN/CLOSE switch. (Press the switch slowly.)**



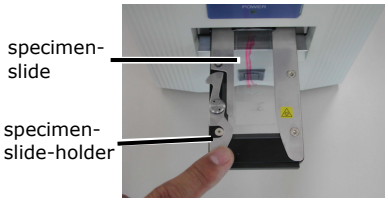
[EJECT] button

Tray OPEN/CLOSE switch

The tray opens.

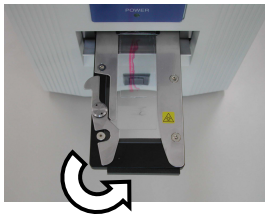
⚠ Caution:	Keep clear of the entrance/exit opening and do not look into it.

2) Open the specimen slide holder and place a specimen slide (with the cover glass facing up) on the tray.
Place it properly, making sure that it lies flat.



NOTE:	To indicate information of a specimen, write it down in the area of the white paper label on the specimen slide. The area is located nearside and has an inside height of 15 mm. Or, use a specimen slide with white frost-processed surface and write the information with a black-pen.

3) Hold down the specimen slide with the holder.
Check that the holder is closed and the specimen slide is properly fastened.



4) Press the gray tray OPEN/CLOSE switch at the front of the COOLSCOPE or click on the [EJECT] button on screen. At this time, the tray is retracted into the COOLSCOPE.

The image loading starts automatically when a specimen slide is placed in the COOLSCOPE.

⚠ Caution:	You cannot manually push the tray into the COOLSCOPE.

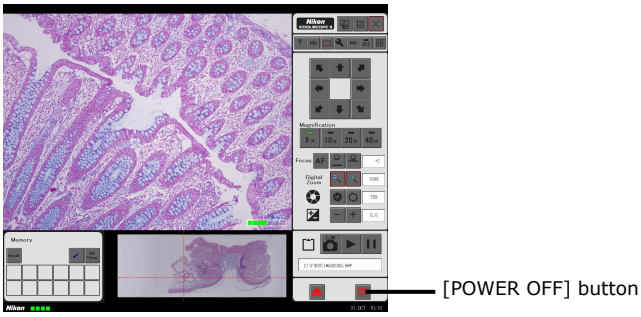
5) To take out the specimen slide, follow the same procedure as described in Step 1 and take the specimen slide out of the tray.

4 Shutting down the COOLSCOPE

⚠ Caution:	Always take the specimen slide out of the COOLSCOPE before shutting it down.

1) Click on the [POWER OFF] button POWER OFF on screen.

A confirmation message "Ready to shut down?" appears.



2) Click on the [OK] button.

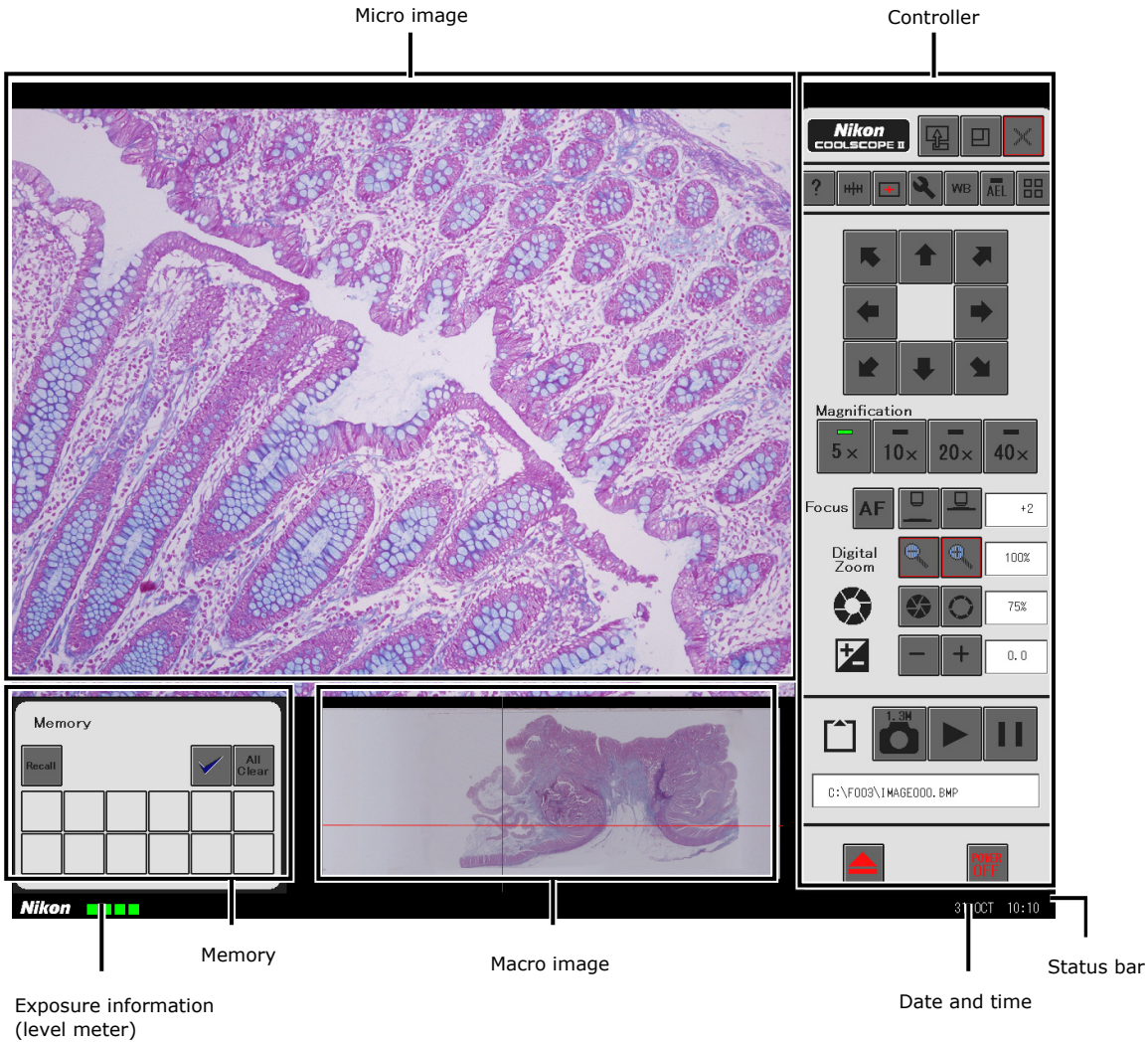
The COOLSCOPE is turned off.

NOTE:	If you do not intend to use the COOLSCOPE for extended periods, set the main power switch to the ○ position to turn off the main power.

III

Description of the Multi Screen

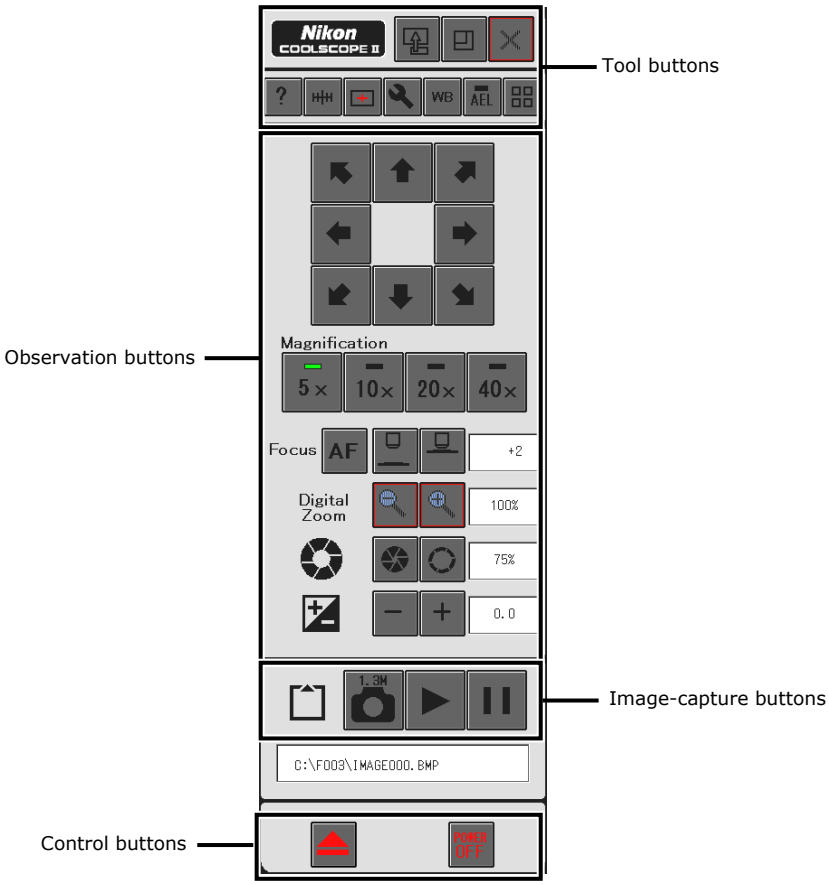
1 Screen Layout



The status bar shows the exposure information (level meter), date, and time.

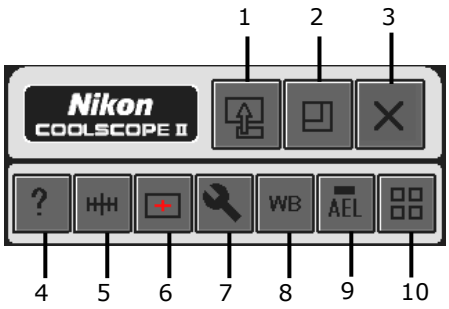
NOTE:	Buttons that may be used are highlighted in yellow when the mouse pointer is positioned over them. Buttons highlighted in red cannot be used.

2 Names and Functions of Buttons



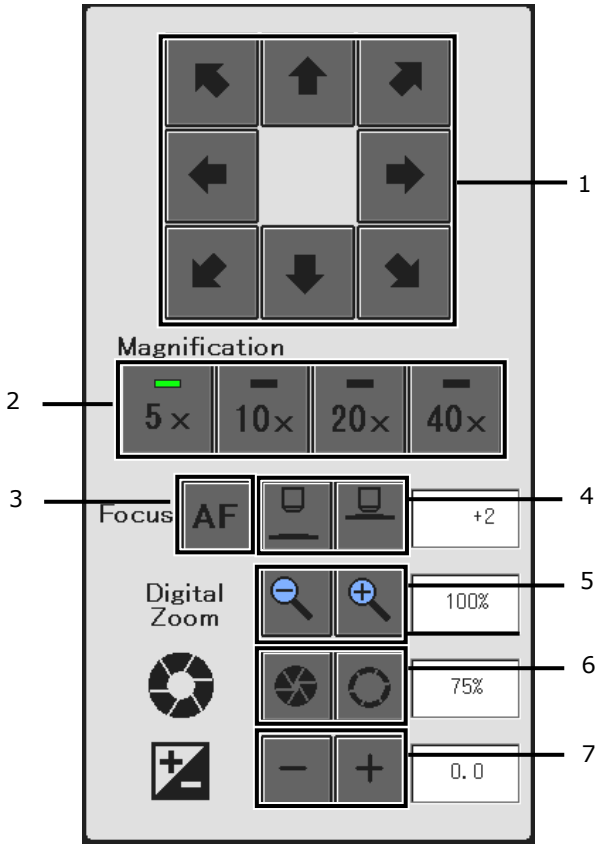
In the descriptions given on the following pages, all mouse-click operations are left-click operations, unless specified as right-click operations.

Tool buttons



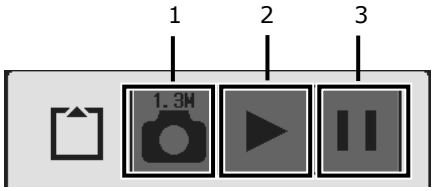
No.	Name		Function	Page
1		[ENLARGE] button	Enlarges the macro image or cancels its enlargement	P.41
2		[DISPLAY] button	Switches between Multi screen and Full screen	P.42
3		[CONTROLLER] button	Closes the controller (May be used with FULL screen. Right-click on the screen to display the controller again.)	P.42
4		[HELP] button	Opens/closes the help screen	P.43
5		[SCALE] button	Displays/hides the scale * Right-clicking changes the color of the scale.	P.43
6		[CROSS LINES] button	Displays/hides focusing lines on the macro image * Right-clicking changes the color of the cross lines.	P.43 to 44
7		[SETTING] button	Displays the Details menu (camera setting, network setting) * Right-clicking displays the maintenance menu for service.	P.51 to 66
8		[WB] button	• WB display: Sets the white balance • Other than WB display: Calls up the camera setting * Right-clicking switches between button displays (WB, HE, PAP, AZ, c1, c2, c3).	P.49 to 50
9		[AEL] button	Locks the automatic exposure	P.50
10		[Thumbnail] button	Displays image files stored in a medium (CF card or USB memory) as thumbnail images.	P.50

Observation buttons



No.	Name	Function	Page
1	[MOVE] button	Moves the observation position (fine movement) * Right-clicking moves the observation position (coarse movement).	P.34
2	[MAG.] button	Changes the magnification * Right-click, first to change the optical zoom magnification, then to perform auto-focus. (Note: This function is enabled only when the optical zoom magnification is adjusted from low to high magnification)	P.34
3	[AF] button	Auto-focus (Note: Always select a magnification of "5×" when using the [AF] button for the first time after replacing the specimen slide. Make sure the specimen is positioned at the center of the field of view.) * Right-clicking displays the AF area in the micro image.	P.33 , 44
4	[FOCUS] button	Manual focus (fine adjustment) * Right-clicking: Manual focus (coarse adjustment)	P.35
5	[DIGITAL ZOOM] button	Electronic zoom (enabled when Full screen is selected)	P.44
6	[APERTURE] button	Adjusts the aperture (coarse adjustment) * Right-click to adjust the aperture (fine adjustment).	P.44
7	[AE] button	Adjusts the image brightness	P.35

Image-capture buttons

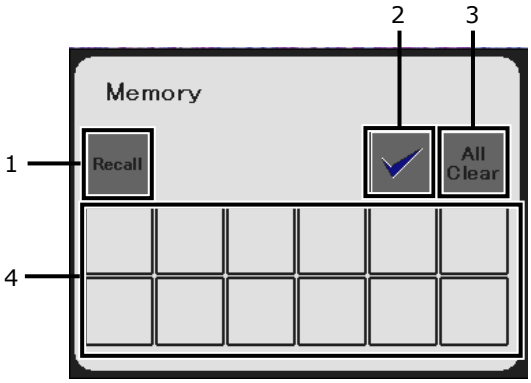


No.	Name	Function	Page
1	[SAVE] button	Saves the image * Right-clicking displays the Save menu. Note: Illustrations to the left of the [SAVE] button represent the respective output destinations. Saves the image data to the CF CARD Saves the image data to the FTP server Prints the image data (Note: Images can be printed out with a PictBridge compatible printer. For information about printing images, refer to P73.) Saves the image data to the USB memory (D:). Saves the image data to the USB memory (E:). Saves the image data to the USB memory (F:). NOTE: When a USB memory is set, the COOLSCOPE detects the device and the SAVE button and items in SAVE TO area change to the appropriate condition automatically.	P.38, 40
2	[PLAY] button	Displays the image saved in a medium (CF card or USB memory)	P.45
3	[IMAGE] button	Switches between a Live image and a Freeze-frame image	P.45

Control buttons

No.	Name	Function	Page
1	[EJECT] button	Opens/closes the tray * Right-clicking captures the macro image again.	P.23, 32, 35, 110
2	[POWER OFF] button	Shuts down the COOLSCOPE * Right-clicking shuts down the COOLSCOPE (during objective cleaning).	P.24, 138

[MEMORY] buttons



No.	Name	Function	Page
1	[RECALL] button	Calls up the observation conditions stored in the medium (CF card or USB memory)	P.48
2	[MEMORY] button	Stores observation conditions * Right-clicking enables/disables storage of observation conditions of the medium (CF card or USB memory).	P.46
3	[ALL CLEAR] button	Erases all stored observation conditions	P.47
4	Number button	Replicates the selected stored observation conditions * Right-clicking erases the selected stored observation conditions.	P.47

IV

Basic Observation Tasks

To observe a specimen, you must follow the steps described below.

(1) Place a specimen slide in the COOLSCOPE.

(2) Select an observation position.

(3) Bring the image into focus.

(4) Observe the specimen.

(5) Take out the specimen slide upon completion of observation and image capture.

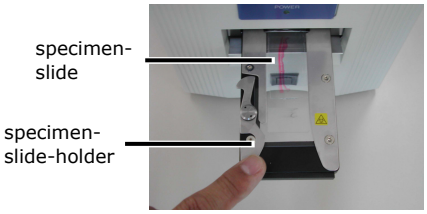
This chapter describes the basic observation tasks in the sequence listed above.
Please refer to "Basic Image-Capture Tasks" in the next chapter for a discussion of these operations.

1 Placing a Specimen Slide in the COOLSCOPE

1) Click on the [EJECT] button on the multi screen.
(You may instead press the gray tray OPEN/CLOSE switch at the front of the COOLSCOPE.)

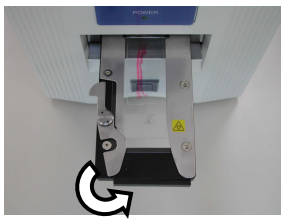
The COOLSCOPE tray opens.

2) Open the specimen slide holder and place a specimen slide (with the cover glass facing up) on the tray.
Place it properly, making sure that it lies flat.



NOTE:	To indicate information of a specimen, write it down in the area of the white paper label on the specimen slide. The area is located nearside and has an inside height of 15 mm. Or, use a specimen slide with white frost-processed surface and write the information with a black-pen.

3) Hold down the specimen slide with the holder.
Check that the holder is closed and the specimen slide is properly fastened.



4) Click on the [EJECT] button again.
(You may instead press the gray tray OPEN/CLOSE switch at the front of the COOLSCOPE.)

The tray closes, drawing the specimen slide into the COOLSCOPE. Specimen image loading starts automatically. At this time, the COOLSCOPE is set up as follows:

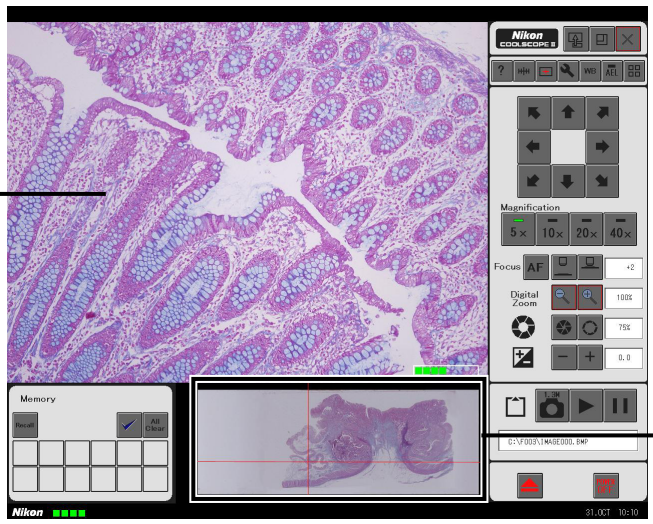
- The magnification is set at 5X.
- In accordance with the 5X magnification, lighting brightness and aperture are automatically adjusted.

2 Selecting an Observation Position

1) Click on a desired observation position to be centered on the macro image.
A micro image of the clicked position is displayed.

Micro image

An enlarged image of the area observed at the selected position within the macro image is displayed.



Macro image

3 Bringing the Image into Focus (Auto-Focusing)

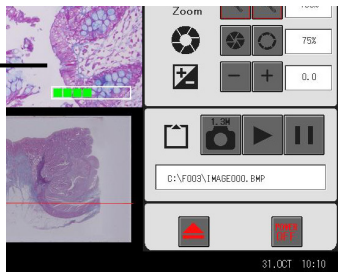
With 5X selected as magnification, bring the image into focus.

1) Click on the [AF] button.
The image is automatically brought into focus.

NOTE:

- When the [AF] button is used for the first time following specimen-slide replacement, always select 5 x as the magnification. Note also that the [AF] button must be used with the specimen positioned at the center of the field of view.
- If it is difficult to bring the image into focus, display a high-contrast area of the image at the center of the field of view and then click on the [AF] button again. Note that right-clicking on the [AF] button enables confirmation of the AF area. For more information, please refer to "1.9 Displaying the AF area on the micro image" in Chapter VI.
- During auto-focusing, a progress bar is displayed on the micro image to indicate the process status. When the bar reaches the end, auto-focus is complete.
- The color of the progress bar will be the same as the color selected for the scale.

Progress bar



4 Observing the Specimen on the Slide

4.1 Moving the observation position

You can move the observation position in any of three ways, as follows:

Clicking somewhere on the macro image

1) Click somewhere on the macro image.

2) A micro image of the clicked position is displayed.
You can continuously move the observation position by dragging while holding down the left mouse button.

NOTE:	Right-clicking activates the auto-focus function after the observation position shifts to the selected position.

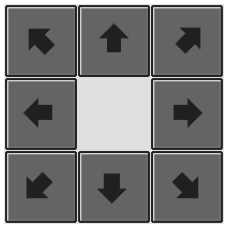
Clicking somewhere on the micro image

1) Click somewhere on the micro image.

2) The micro image moves to center on the clicked position.
You can continuously move the observation position by holding down the left mouse button.

Clicking on the [MOVE] button

1) Click on the [MOVE] button .
The observation position moves by a distance of half the micro image screen per click.
You can continuously move the observation position by pressing and holding the left mouse button.



NOTE:	By right-clicking, the observation position moves a distance of one micro image screen width per click.

4.2 Changing magnifications

1) Click on the [MAG.] button.
When the magnification is changed, lighting brightness and the aperture are automatically adjusted.

NOTE:	Right-click, first to change the optical zoom magnification, then to perform auto-focus. This function is enabled only when the optical zoom magnification is adjusted from low to high magnification. If the magnification is changed from high to low, right-clicking will not activate auto-focus.

4.3 Adjusting the image focus

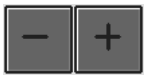
1) Click on the [FOCUS] button.
The amount of adjustment per click varies depending on the selected magnification.
Pressing and holding the left mouse button changes the amount of adjustment continuously.

NOTE:
- A single right click results in coarse adjustment (i.e., in increments approximately ten times larger) when the left mouse button is subsequently clicked.
- As a guide during focusing, the figure in the text box to the right of the [FOCUS] button changes in the ±1000 range. (This figure is for guidance purposes only. Even if the figure is 0, it does not represent the focusing position.)

4.4 Darkening/brightening the image

You can adjust the image brightness level.
The desired level can be selected from among a number of available options (-2.0/-1.6/-1.3/-1.0/-0.6/-0.3/0/+0.3/+0.6/+1.0/+1.3/+1.6/+2.0).

1) Click on the [AE] button.
The level changes each time the [AE] button is clicked.



5 Taking the Specimen Slide out of the COOLSCOPE

Take out the specimen slide upon completion of observation and image capture.

1) Click on the [EJECT] button.
The COOLSCOPE tray opens.

2) Take the specimen slide out of the tray.

3) Click on the [EJECT] button again.

V

Basic Image-Capture Tasks

To capture the image of a specimen, follow the steps described below.

(1) Set a medium.

(2) Specify the image file format and other data.

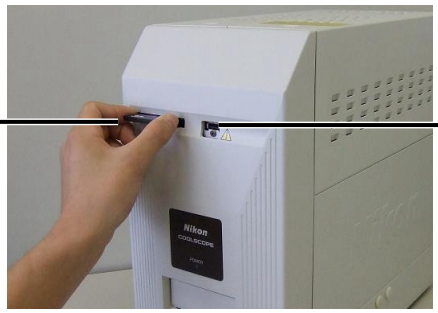
(3) Capture the specimen image.

This chapter describes the basic image-capture tasks in the sequence listed above.

1 Setting a Medium to the COOLSCOPE

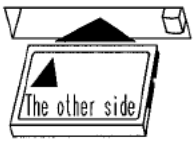
To save a captured image, a medium such as a CF card or a USB memory must be set to the COOLSCOPE.

1) Before capturing an image set a medium such as a CF card or a USB memory.



⚠ Caution:
This port is used for a USB memory only. Do not connect other USB device such as a USB mouse.

Caution !	Be careful about the orientation of the CF card. Face the back side upward.



NOTE:

- This step is not required when you save your image to an FTP server. Note, however, that in this case you need to set up the FTP server in advance. Please refer to Chapter VIII, "Networking Functions," for more information on the FTP setup procedure.
- When a USB memory is set, the COOLSCOPE detects the device and the SAVE button and items in SAVE TO area change to the appropriate condition automatically.

Notes on Using an External Recording Medium

Images can be saved to or reproduced from a medium (CF card, USB memory). Pay attention to the following when using a medium:

- Use a Type-I or Type II-compliant CF card, microdrive, or a USB I/F memory.
- Carefully read the users' manual provided with your medium before using the card.
- To format a CF card on your computer, use FAT12, FAT16 (Sometimes these are expressed simply as FAT.), or FAT32. Depending on the OS used, you may not be able to select a format.
- Insert the connecting side (with the connecting slot) of a CF card into the card slot, with the back label side facing toward you. Carefully note the direction and inclination of a CF card when inserting.
- Check to see that the CF card indicator LED is off before inserting or removing a CF card.
- Do not remove a CF card or turn off power to the COOLSCOPE while the card is being accessed (the LED indicator is on). Attempting to do so may result in loss of recorded data or damage to the CF card.
- Be sure to use a USB memory whose operation is verified. Not all USB memories are compatible with the COOLSCOPE.
- If a USB memory is not recognized, disconnect and reconnect it.
- Do not connect nor disconnect the USB memory when writing data.

Caution !	When a medium is connected to the COOLSCOPE while the COOLSCOPE is being operated, the medium is heated by heat generated from the COOLSCOPE. A CF card or microdrive is heated more excessively since it is inserted in and connected to the COOLSCOPE. When the COOLSCOPE is operated at 40°C (maximum operating temperature), the operating temperature of a CF card or microdrive becomes approximately 60°C. Some media do not guarantee operation under the above operating temperature. Do not use such media.

Medium formatting function

The COOLSCOPE can format a medium into a FAT type. A FAT type is automatically set in accordance with the size of the medium.

Medium size	FAT type
approx. under 2MB	FAT 12
approx. 2MB to 512MB	FAT 16
approx. above 512MB	FAT 32

The COOLSCOPE will format a medium when you select a medium to be formatted on the File Settings submenu and press the [Format] button.

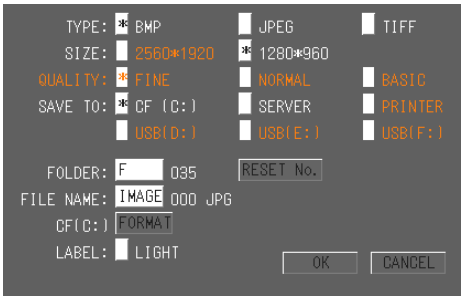
2 Specifying the Image Storage Format, Storage Medium, File Name, and Label Illumination

On delivery, the COOLSCOPE has the following settings set for image storage format, storage medium, and filename.

No.	Item		Initial setting
1	Storage format	Image file format	BMP
		Image size	1280*960
2	Storage medium		CF CARD or USB memory
3	Folder name		F
4	File name		IMAGE
5	Label illumination		OFF

Change the image storage format, storage medium, and/or file name as necessary. The settings remain in effect until the power switch of the COOLSCOPE is turned off. If you use the [POWER OFF] button to switch off the COOLSCOPE, the current settings for image storage format, filename, and label illumination are saved. These settings are reloaded the next time power is switched on.
For the storage medium, the initial value changes depending on the set device. The USB memory setting is set when a USB memory is connected and the CF card setting is set when a CF card is inserted.

1) Right-click on the [SAVE] button.
The Settings screen and the software keyboard are displayed.



Settings Screen

2) Change settings for the following items as necessary.

TYPE: Image file format (BMP / JPEG / TIFF)
Check a desired file format in which to save the image.

SIZE: Image size (2,560*1,920 / 1,280*960)
Check a desired image size for saving the image.
2560*1920 is enabled when Full screen is selected.

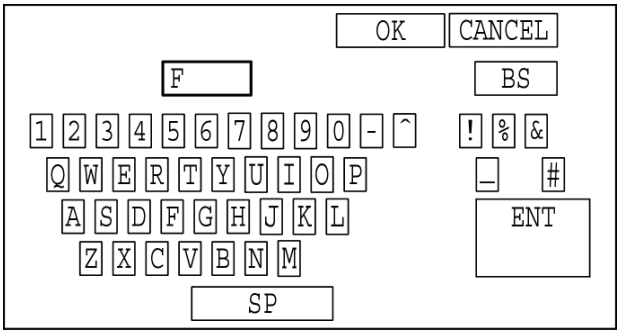
QUALITY: Image quality (FINE / NORMAL / BASIC)
Check a desired image quality when saving the image in JPEG format.

SAVE TO: Storage medium

Check the desired storage medium: CF CARD or SERVER (FTP server).
If you wish to select SERVER, you must first set up the FTP server in advance. Please refer to Chapter VIII, "Networking Functions," for more information on the FTP setup procedure.
When a USB memory is set, the COOLSCOPE detects the device and the SAVE button and items in SAVE TO area change to the appropriate condition automatically.

FOLDER: Folder name

The software keyboard appears when the FOLDER text box is clicked. Enter a folder name (up to 5 characters).



Software Keyboard

A number is assigned to a folder name.
This number is increased by one each time a specimen slide is ejected and retracted. The number starts at 000 and returns to 000 after it reaches 999.

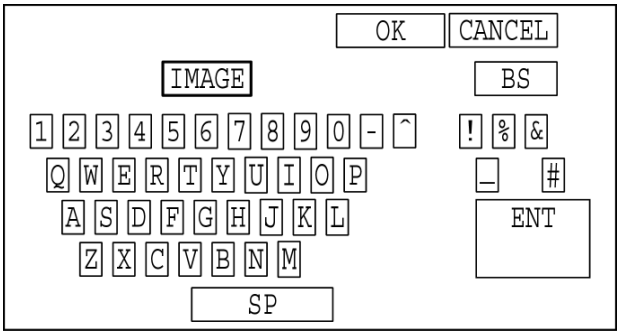
RESET No.: Resetting of folder numbers

The start value for the folder numbers for folder names is reset to 000.

Caution !	During image capture after the folder number is reset, the newly created image files will overwrite any existing folder on the CF card having the same name. Before image capture, make sure no folder has the same name as the names assigned to new images.

FILE NAME: File name

The software keyboard appears when the FILE NAME text box is clicked. Enter a file name (up to 5 characters).



Software Keyboard

The number starts at 000 and returns to 000 after it reaches 999.

CF (USB): Formatting the medium

Clicking on the [FORMAT] button deletes data from the medium (CF card or USB memory) and initializes the medium.

Caution !	In certain cases, CF cards formatted in a format other than FAT32 or NTFS may not be successfully reformatted to FAT16.

Label: Label illumination

To turn on the illumination for the label on the specimen slide, check the box.

NOTE:	To indicate information of a specimen, write it down in the area of the white paper label on the specimen slide. The area is located nearside and has an inside height of 15 mm. Or, use a specimen slide with white a frost-processed surface and write the information with a black-pen.

3) When you are finished, click on the [OK] button.

The changes made to the settings are stored, closing the Settings screen and the on-screen software keyboard.
Click on the [CANCEL] button if you wish to cancel the changes.

3 Capturing an Image

1) Click on the [SAVE] button.

The image is saved to the medium (CF card or USB memory) or FTP server.

NOTE:	• During the first image saving following placement of a specimen slide on the tray, a macro image of the specimen is saved at the same time. The macro image's file name contains a folder name followed by "MAC" in place of the serial number seen in the folder name of the micro image. Note that the image file format is BMP. • When a scale is displayed on the screen, the scale is also added to the saved image. However, the scale cannot be displayed when the image size is 2560 x 1920.

For the relationship between image size and the size of image files, refer to the table shown below. For JPEG images, the size varies greatly depending on the image; thus please use the table for reference only.

File Type	BMP	JPEG Fine	JPEG Normal	JPEG Basic	TIFF
2560*1920	14MB	4MB	1.9MB	1.2MB	14MB
1280*960	3.6MB	1.0MB	480KB	320KB	3.6MB

VI

More Sophisticated Tasks

This chapter explains convenient functions not covered in the discussion of basic tasks.

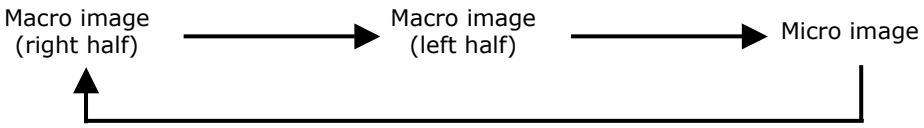
1 Displaying the Screen

1.1 Enlarging the macro image/quitting enlargement

You can display the macro image in the micro image area and enlarge it there.

1) Click on the [ENLARGE] button.

The image displayed in the micro image area is switched as follows each time the [ENLARGE] button is clicked:

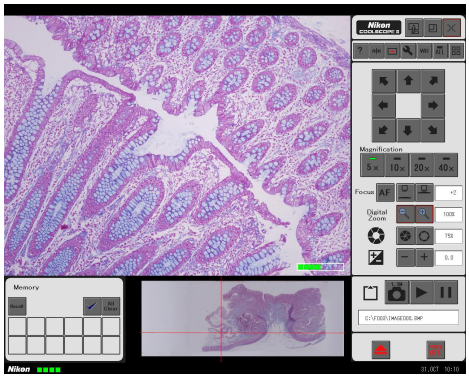


1.2 Switching between Multi screen and Full screen

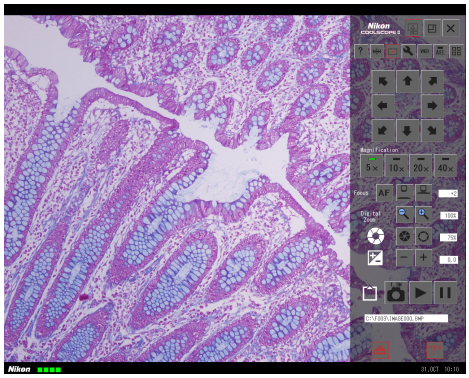
You can switch between "Multi screen" and "Full screen" modes.
When you select Full screen, the micro image will fill the entire screen.

1) Click on the [DISPLAY] button.
The display switches from Multi screen to Full screen.

2) The display switches back to Multi screen when you click on the [DISPLAY] button again.



Multi screen



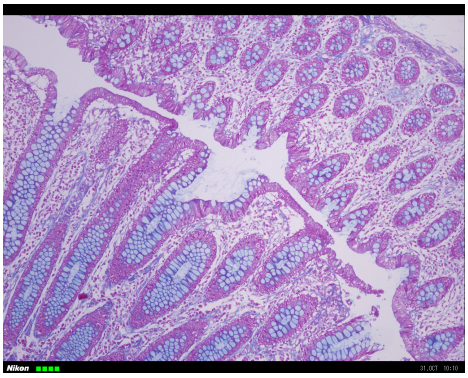
Full screen

1.3 Closing the controller

You can open or close the controller when Full screen is selected.

1) Click on the [CONTROLLER] button.
The controller closes.

2) Right-click on Full screen to open the controller.



Full screen

1.4 Opening/closing the help screen

You can display the help screen.

1) Click on the [HELP] button.

The help screen appears.

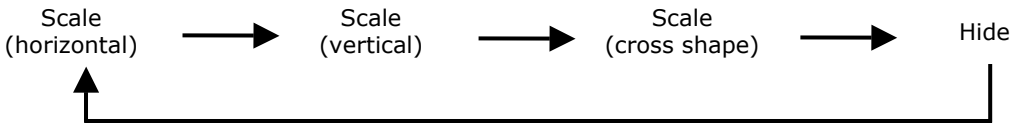
2) The help screen disappears when you click on the [HELP] button again.

1.5 Displaying/hiding the scale

You can display the scale on the micro image.

1) Click on the [SCALE] button.

The scale appears in the upper-right corner of the micro image.
Each click on the [SCALE] button changes the scale indication in the following cycle:



NOTE: When the scale is displayed, it can be moved to a desired position.
Clicking on the micro image displays the scale so that the clicked position is positioned at the scale origin (upper left). If the scale lies off the micro-image display area, its display position is adjusted so that it is displayed within the display area. Note that the observation position can only be changed using the MOVE button while the scale is displayed.

Caution ! The scale is for guidance purposes only. Do not use it for measurement.

1.6 Changing the scale colors

The scale colors can be changed.

1) Right-click on the [SCALE] button.

The scale color changes each time the [SCALE] button is clicked.

1.7 Displaying/hiding focusing lines on the macro image

Focusing lines representing the current observation position appear on the macro image. You can display or hide these focusing lines.

1) Click on the [CROSS LINES] button.

Focusing lines disappear from the macro image.

2) Focusing lines reappear when you click on the [CROSS LINES] button again.

1.8 Changing the colors of focusing lines

The colors of focusing lines can be changed.

1) Right-click on the [CROSS LINES] button.
The color of the focusing lines changes each time the [CROSS LINES] button is clicked.

1.9 Displaying the AF area on the micro image

The auto-focus function displays the area in which the image contrast is being detected (AF area), in rectangular form on the micro image. The AF area disappears automatically in approximately one second.

1) Right-click on the [AF] button.
The color of the focusing lines changes each time the [CROSS LINES] button is clicked.

2 Adjusting images

2.1 Zooming out/zooming in

You can use electronic zoom when Full screen is selected.
A desired zoom factor can be selected from among the following options:
100%/140%/200%/280%/400%/800%/1600%.
The zoom factor is restored to 100% when you switch to Multi screen.

1) Click on the [DIGITAL ZOOM] button.

NOTE:	Executing auto-focus (clicking on the AF button) restores the zoom factor to 100%.

2.2 Closing/opening the aperture

You can close or open the aperture.
A desired aperture level can be selected from among the following options:
25%/50%/75%/100%. (Standard level: 75%)

1) Click on the [APERTURE] button.

NOTE:	• Right-click to enable adjustment in 5% increments (range: 25% to 100%).

3 Displaying images

3.1 Displaying images stored in the Medium

You can display images stored in the medium (CF card or USB memory).

1) Click on the [PLAY] button.

One of the images stored in the medium (CF card or USB memory) is displayed.

2) Images are displayed in descending order from most to least recent each time the [PLAY] button is clicked. Right-click to display images in order from oldest to most recent.

The live image will appear on screen again upon completion of the display of all images on the medium (CF card or USB memory).
The live image reappears when you click on the [IMAGE] button.

3.2 Displaying the freeze-frame image

You can display the freeze-frame image.

1) Click on the [IMAGE] button.

The freeze-frame image appears.

2) The live image reappears when you click on the [IMAGE] button again.

NOTE: When you switch from the live image to the freeze-frame image or vice versa, the IMAGE button changes as follows.

Live image:

Freeze-frame image:

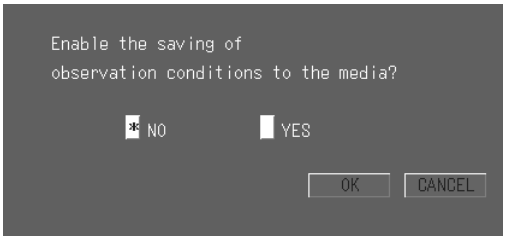
4 Saving observation conditions

The COOLSCOPE is capable of saving up to 12 sets of observation conditions, and replicating them. In addition, observation conditions can be saved to a medium (CF card or USB memory) when such saving is enabled. Note that all observation conditions saved in the COOLSCOPE memory are erased when the specimen slide is removed. Saving the current observation conditions onto the medium (CF card or USB memory) allows them to be reused when the same specimen slide is observed later.

4.1 Enabling the saving of observation conditions to the Medium

When saving to the medium (CF card or USB memory) is enabled, the current observation conditions can be saved to the medium (CF card or USB memory) and used when the same specimen slide is observed later. Note that the medium (CF card or USB memory) can replicate the desired observation conditions using the saved image even without the specimen slide, as the medium also saves the macro image and the micro images under individual observation conditions.

1) Right-click on the [MEMORY] button.
The Settings screen is displayed.



Settings Screen

2) Check the YES checkbox to enable saving to the medium. Check the NO checkbox to disable saving to the medium.

3) Click on OK.

NOTE:	If you use the [POWER OFF] button to switch off the COOLSCOPE, the observation save enable/disable conditions are saved. These settings are reloaded the next time power is switched on.

4.2 Saving the current observation conditions

Follow the step described below to save the current observation conditions to the COOLSCOPE memory.

1) Click on the [MEMORY] button.
A number appears on the macro image. At the same time, the [RECALL] button with the same number is displayed in the Memory area. Numbers are assigned automatically incremented by 1.

NOTE:	When saving to the medium (CF card or USB memory) is enabled, the observation conditions and the micro image are saved together on the medium.

4.3 Replicating a set of saved observation conditions

Follow the step described below to replicate a set of observation conditions saved in the COOLSCOPE memory.

1) Click on the NUMBER button with a number corresponding to the set of observation conditions to be replicated.
The set of observation conditions for the clicked NUMBER button is replicated.

NOTE: Please refer to "4.5 Replicating a set of observation conditions saved in the Medium" for the procedure for replicating a set of observation conditions saved on the CF card.

4.4 Erasing stored observation conditions

Follow the steps described below to erase the observation conditions saved in the COOLSCOPE memory.

Erasing all sets of observation conditions

1) Click on [ALL CLEAR] button.
The confirmation message "All clear?" appears.

2) Click on [OK] button.
All numbers on the macro image and the all [NUMBER] buttons in the Memory area are erased.

Erasing individual sets of observation conditions

1) Right-click on the desired NUMBER button.
The confirmation message "Clear?" appears.

2) Click on [OK] button.
The selected number on the macro image and the [NUMBER] button with the same number in the Memory area are erased.

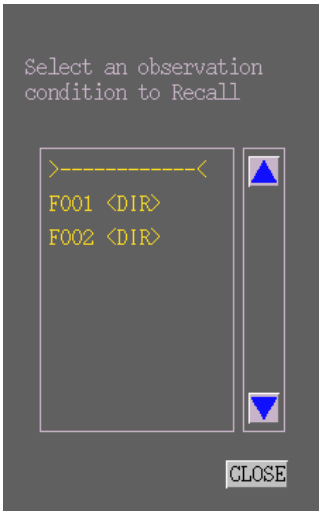
4.5 Replicating a set of observation conditions saved in the Medium

Follow the steps described below to replicate a set of observation conditions stored in the medium (CF card or USB memory).

1) Put a specimen slide in place and set the medium (CF card or USB memory) to the COOLSCOPE.
When observing a live image of the specimen slide, exercise caution not to select an incorrect combination of specimen slide and medium. When replicating a set of observation conditions using a saved image, it is not necessary to place a specimen slide in the COOLSCOPE.

2) If any NUMBER buttons are displayed in the Memory area, click on the [ALL CLEAR] button to erase all sets of observation conditions saved in the COOLSCOPE memory.
Click on OK when the confirmation message "All clear?" is displayed.

3) Click on the [RECALL] button.
A list of Recall folders is displayed.



List of Recall folders

NOTE:	"[All clear] the Memory before reading out the media." appears if any of the observation conditions remain undeleted from the COOLSCOPE memory. The message will disappear automatically.

4) Select the name of the folder in which the desired set of observation conditions is saved.
Reading of stored observation conditions starts.
Click the [CLOSE] button to close the Recall folder list and halt the reading operation.

5) Click on the NUMBER button with a number corresponding to the set of observation conditions to be replicated.
The set of observation conditions for the clicked NUMBER button is replicated.
In the absence of a specimen slide in the COOLSCOPE, the image saved in the medium is replicated.

5 Setting up the Camera

5.1 Calling up the camera setting suitable for the specimen

Camera settings (scene modes: HE, PAP, AZ) suitable for HE-, papanicolaou- and azan-stained specimens can be called up. Camera settings (custom modes: c1, c2, c3) adjusted using the CAM menu can also be called up. For more information on the CAM menu, please refer to "VII Details menu."

1) Right-click on the [WB] button. The button changes as follows each time it is right-clicked:

WB -> HE -> PAP -> AZ -> c1 -> c2 -> c3

The camera settings in the table ("Description of Camera Settings") shown below are assigned to the HE, PAP, AZ, c1, c2, and c3 buttons, respectively. Display the desired camera-setting button.

2) Click on the camera-setting button displayed in Step 1. The camera setting assigned to the selected button is called up.

> Caution ! Clicking on the button while "WB" appears on it starts white balance setting. For more information, please refer to "5.2 Setting the white balance."

Description of Camera Settings

	Button	Setting	Description
Scene modes	HE	HE stain	Setting suitable for HE-stained specimens
	PAP	Papanicolaou stain	Setting suitable for papanicolaou-stained specimens
	AZ	Azan stain	Setting suitable for azan-stained specimens
Custom modes:	c1	Custom 1	Values obtained through camera adjustments using the CAM menu
	c2	Custom 1	Values obtained through camera adjustments using the CAM menu
	c3	Custom 1	Values obtained through camera adjustments using the CAM menu

NOTE:
- The scene-mode settings cannot be changed.
- Up to seven combinations (c1 to c7) of values obtained through camera adjustments can be saved using the CAM menu. Note that only custom modes c1 through c3 can be called up from the Multi screen. To call up any of c4 through c7, click on the desired custom mode button in the CAM menu.

5.2 Setting the white balance

The white balance is factory-set, but can be changed as desired. Follow the steps described below to change the white balance as necessary.

1) Click on a specimen-free part of the macro image.
At this time, if the screen is too dark or if white areas appear at intervals, use the [AE] button to make the necessary adjustments.

2) Click on the [WB] button.
The white balance is adjusted.

NOTE:	Changing the white balance automatically resets the camera gain to Y100, R100, and B100. After setting the white balance, if necessary, call up the camera setting suitable for the specimen as described in 5.1. The adjusted white balance setting is applicable only for the conditions used in the adjustment, such as the magnification and the size of the diaphragm. If the magnification or the size of the diaphragm is changed, adjust the white balance again.

5.3 Locking the automatic exposure

You can lock the automatic exposure.
The COOLSCOPE adjusts its exposure at all times to achieve the optimal image brightness. This adjustment can be stopped for fixed exposure.

1) Click on the [AEL] button.
The AEL button turns green if auto-exposure is locked.

5.4 Displaying thumbnail images

You can display images saved on the CF card as thumbnails.

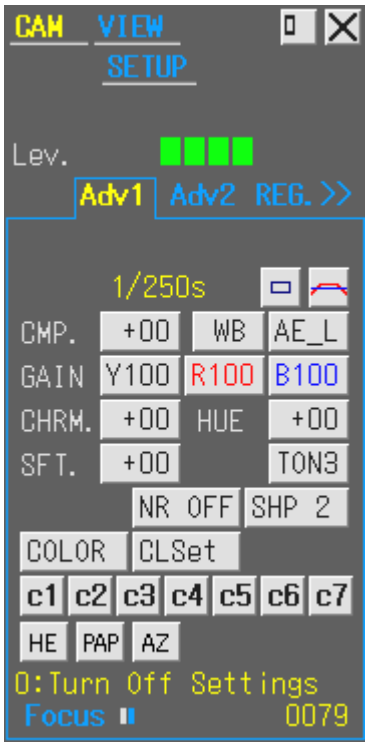
1) Click the [Thumbnail] button.
The screen changes to the VIEW menu in the Details menu, showing thumbnails of images stored in the most recent folder inside the NIKON folder on the CF card.

VII

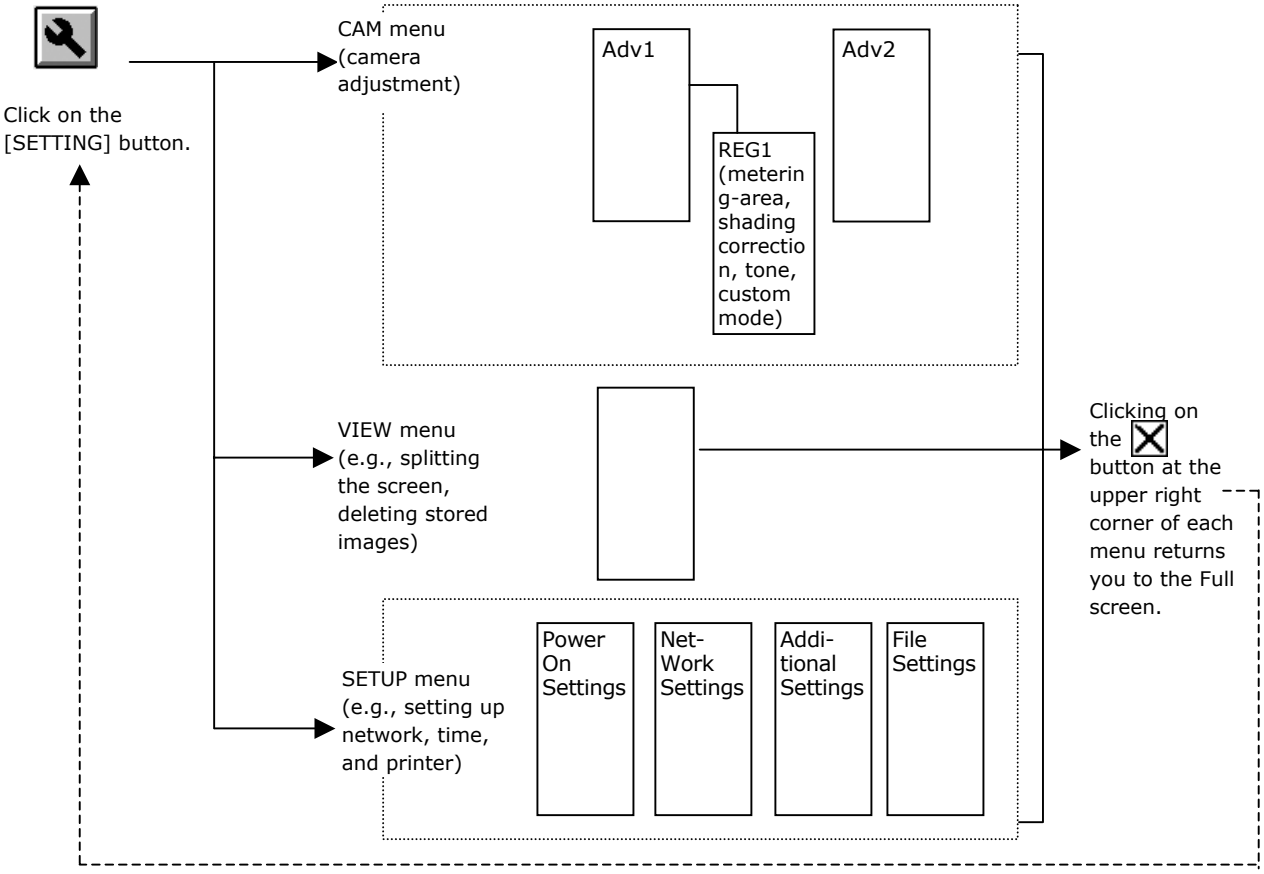
Details Menu

Clicking on the [SETTING] button displays the Details menu.

The Details menu enables the performance of a variety of tasks, including adjusting the camera, splitting the screen, deleting images from the medium, and setting up the network.



- The Details menu contains three menus: CAM, VIEW, and SETUP. You can move from one menu to another by clicking on the tags at the top of each menu.
- Clicking on the ☒ button at the upper right corner of each menu returns you to the Multi screen.
- Clicking on the ▯ button at the upper right corner of each menu resizes the menu.


Click on the [SETTING] button.
CAM menu (camera adjustment)
Adv1
Adv2
REG1 (metering-area, shading correction, tone, custom mode)
VIEW menu (e.g., splitting the screen, deleting stored images)
SETUP menu (e.g., setting up network, time, and printer)
Power On Settings
Net-Work Settings
Addi-tional Settings
File Settings
Clicking on the button at the upper right corner of each menu returns you to the Full screen.

(1) CAM menu

The CAM menu can be used to adjust the camera, and contains two submenus: Adv1 (Advanced menu 1) and Adv2 (Advanced menu 2). Clicking on the tab approximately 2/3 of the way up the menu allows you to move among submenus.

Changes made to the settings are reflected in the images until the COOLSCOPE is shut down. Shutting down the COOLSCOPE returns all settings to their defaults. Up to seven sets of settings can be saved and readily called up later. For more information, refer to P.53.

(2) VIEW menu

The VIEW menu can be used to perform tasks such as splitting the screen into two halves (live and freeze-frame images) and deleting images in the medium. This menu has no submenus. For more information, refer to P.66.

(3) SETUP menu

The SETUP menu can be used to make settings, including network-connection, date and time, and printer-connection settings. The SETUP menu contains four submenus: Power On Settings, NetWork Settings, File Settings, and Additional Settings. Clicking on the button at the top of each menu allows you to move among submenus. Clicking on the [Return to Window] button returns you to the CAM or VIEW menu. Changes made to the settings remain saved even after the COOLSCOPE is shut down. For more information, refer to P.68.

1 CAM menu (camera adjustments)

No camera adjustments are required under normal observation conditions. Depending on the specimen, however, camera adjustments may provide better observation conditions. Adjustments can be made from the CAM menu within the Details menu.

1) Click on the [SETTING] button. The Details menu is displayed.

2) Display the CAM menu by clicking on CAM at the top of the Details menu.

3) The tab located approximately 2/3 of the way up the menu shows which of the two submenus, Adv1 or Adv2, is currently displayed. Clicking on this tab allows you to move between these submenus.

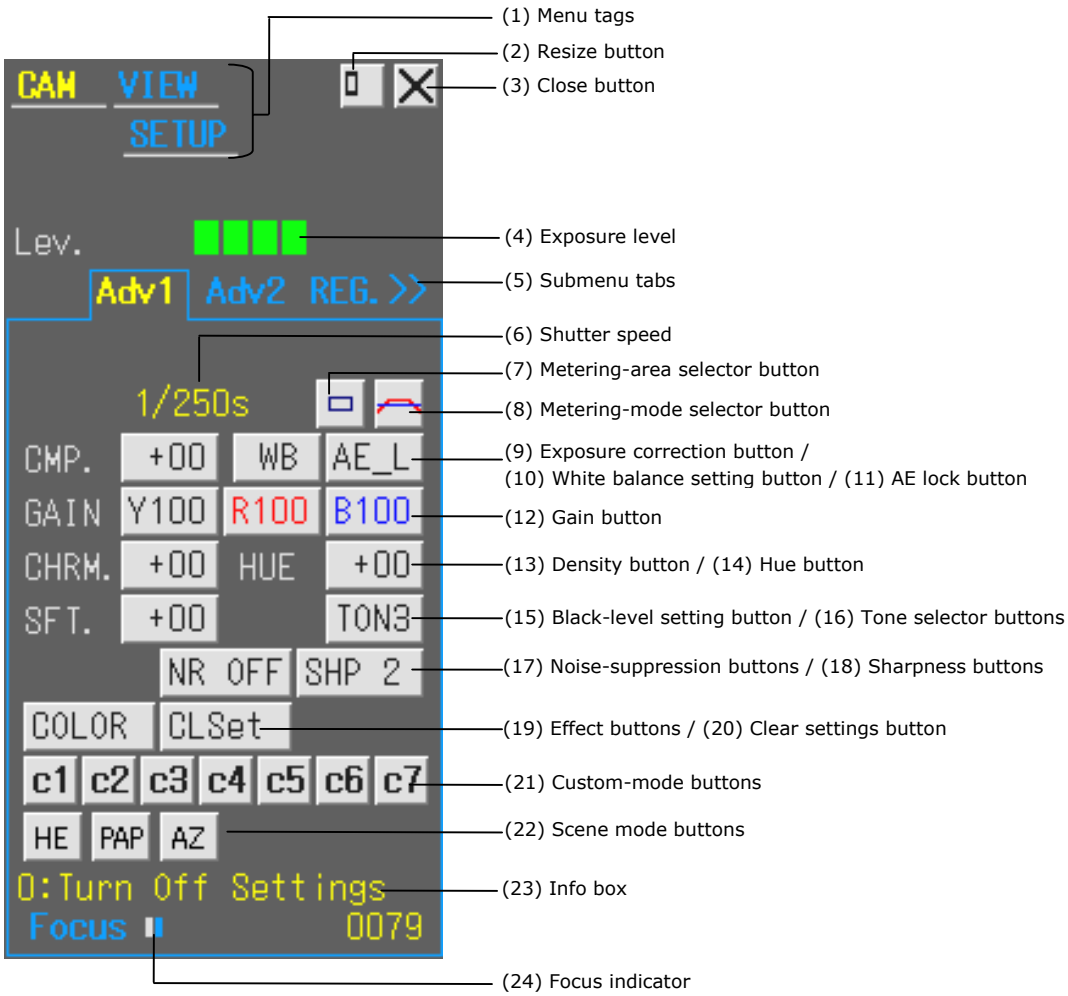
- **Adv1 submenu**
  This submenu allows you to confirm the exposure level and the shutter speed, select a metering area and mode, correct the exposure, set the white balance, lock the AE, adjust the image quality (camera gain, color density, hue, black-level and contrast adjustments, noise suppression, sharpness, color effect), save various settings as custom mode, delete settings, and confirm image-capture and focus conditions.

- **Adv2 submenu**
  Of the settable Adv1 submenu items, this submenu contains those most frequently used (exposure-level, shutter speed, metering area and mode, exposure correction, white balance, AE locking, camera gain, black level, contrast, and focus-condition). Besides, the image brightness histogram can be displayed for the fine adjustment of the exposure.

- **REG1 submenu (menu subordinate to the Adv1 and Adv2 submenus)**
  This submenu enables registration of metering-area, shading, tone, and custom-mode (c1 to c7) settings.

4) Clicking on the ☒ button at the upper right corner of each menu returns you to the Multi screen.

1.1 Adv1 submenu



(1) Menu tags (CAM, VIEW, SETUP)
Allows you to move among menus

(2) Resize button ( )
Changes the menu size

(3) Close button ( )
Closes the menu and returns you to the Multi screen

(4) Exposure level (Lev.)

Shows for guidance purposes whether the current exposure level is appropriate

Light-blue bar:Underexposure
Green bar: Appropriate exposure
Red bar: Overexposure

If the light-blue or red bar appears in the absence of exposure correction, the COOLSCOPE is unable to control its exposure. Therefore, change the image brightness using the exposure correction button (CMP.) so that the green bar appears.

(5) Submenu tabs (Adv1 and Adv2)

Allow you to move among submenus

(6) Shutter speed

The correct shutter speed setting is displayed.

(7) Metering-area selector button

Narrow a1

Slightly narrow a2

Wide a3

You can select which part of the image is to be metered for determination of the exposure level. Normally, select Wide.
Select Narrow to avoid effects from the surrounding areas of the screen.
You can set the size and the position of the area freely on a1 to a3.

* Displaying and setting photometry area: The photometry range is displayed with a red frame for a limited time when the size of the photometry area is changed. The red frame is kept displayed when the icon is right-clicked with the mouse. When the icon is right-clicked again, the photometry area button is displayed with a frame, and you will have a chance to set the metering-area. Operate the mouse to set the area. By dragging the frame of the photometry area, you can change the photometry area size. By dragging the center of the photometry area, you can change the photometry area position. When the icon is further right-clicked, the red frame disappears. For registration of the set photometry area, refer to Section 1.3, "REG1 submenu."

(8) Metering-mode selector button

Average metering

Peak-hold metering

A metering mode can be selected to determine the exposure level. Normally, select Average metering.

Selectively use these modes as follows, as the circumstances demand:

- When there is little variation in brightness over the entire image under a bright field of view
  → Select Average metering.
- When making the background white even whiter
  → Select Peak-hold metering and select a positive value for exposure correction.
- When the subject is black in places and the background is almost entirely black
  → Select Peak-hold metering.

(9) Exposure correction button (CMP.)

Allows the screen brightness to be changed. Left-clicking on the button increases the adjustment value, while right-clicking on it reduces the value. Select a positive value to make the screen brighter, and a negative value to make it darker.

(10) White balance setting button (WB)

Allows setting of the white balance. The white balance cannot be set in the case of overexposure or underexposure. Confirm that the green bar appears at the exposure level before initiating white balance setting.

<White balance setting procedure>

1) Click on the ☒ button to return to the Multi screen.
2) Click on a specimen-free area of the macro image. At this time, if the screen is too dark or if white areas appear at intervals, use the [AE] button to make the necessary adjustments.
3) Display the Details menu by clicking on the [SETTING] button.
4) Display the CAM menu by clicking on the CAM tag.
5) Display the Advn. submenu by clicking on the Advn. tab.
6) Click on the [WB] button (white balance setting button) to set the white balance.

(11) AE lock button (AE_L)

The COOLSCOPE constantly adjusts its exposure to achieve the optimal image brightness. Clicking on the [AE_L] button stops this adjustment, thus fixing the screen brightness. This button functions identically to the controller's [AE_L] button. Either button can be used to enable or disable the AE_L.

(12) Gain button (GAIN Y***, R***, B***)

Allows adjustment of the image brightness and color balance. Change the Y level to adjust the image brightness, which is not finely adjustable using the exposure correction button (CMP). Change the R and B levels to adjust the image color balance with reference to G. Normally, set them at 100%. Gain levels below 100% will result in a reduced output saturation level. Gains in excess of 100% may be set.

(13) Density button (CHR)

Enables selection of a color density in a range of -50 to 50. Left-clicking on the button increases the adjustment value, while right-clicking on it reduces the value. Select a positive value to make the displayed color darker, and a negative value to make it lighter.

(14) Hue button (HUE)

This button is used to change hues during fine color adjustment. Make adjustments while viewing the image. Do not forget to restore the original hue.

(15) Black-level setting button (SFT.)

Select a negative value when removing flares and the like from dark areas of the screen, or when making black areas sharper.

(16) Tone selector buttons (TON1 to TON4, LINR, TON6, TON7, UTN1 to 7)

Seven options are available. The contrast changes with each option. Select a tone that suits your observation while checking it on the monitor.

TON1: Wide dynamic range

Should be selected for a specimen with high contrast requiring shades of gray from dark to bright areas

TON2: Low contrast

Should be selected when low contrast is required

Recommended specimen: Cells, tissues, and general subjects

TON3: Standard contrast

Should be selected for normal image capture

Recommended specimen: Cells, tissues, and general subjects

TON4: High contrast

Should be selected when high contrast is required. This option provides a sharper image.

Recommended specimen: Cells, tissues, and general subjects

LINR: Linear

Use this tone to get a proportional image to the camera. This is used to examine the difference in light intensity of photographed data.

TON6: Metal tissue

Use this tone to suppress unevenness in bright parts for high-contrast image capturing.

TON7: Enhanced contrast

Use this tone to enhance the contrast.

uTN1 to uTN7: User tones

Use these tone settings to register user-defined tones. Draw a tone curve in "Tone Curve Control" on the Adv2 menu by dragging the curve. The total characteristic of the tone curve will be calculated on the basis of the tone curve displayed in the tone curve control box. Therefore, to draw a curve from scratch, select LINR as the base curve.

For details on saving a created tone curve, refer to Section 1.3, "REG1 submenu."

(17) Noise-suppression buttons (NR ON, NR OFF)

Selecting NR ON reduces screen noise, thus increasing the clarity of the image.

Under normal conditions, leave NR set to ON.

(18) Sharpness buttons (SHP0 to SHP5)

Provide a sharper image through outline enhancement of the image. Six levels, 0 (off) to 5 (high), are available.

(19) Effect buttons (COLOR, B&W, NEGA, BlueB, and Sepia)

To apply a color effect, use this function.

- COLOR: Standard color image
- B&W: Monochrome image.
- NEGA: Photographic negative image. This effect is intended for special effects.
- BlueB: Blue back image. The dark level of "NEGA" is colored in blue. This effect is intended for special effects.
- Sepia: Sepia-tinted image. This effect is intended for special effects.

(20) Clear settings button (CLSet)

Clears all settings back to their defaults

(21) Custom-mode buttons (c1 to c7)

Save combinations of settings (custom modes) so that they can be easily called up later. Up to seven custom modes can be saved. The REG1 submenu under the Adv1 submenu can be used to save custom modes.

(22) Scene mode buttons (HE, PAP, AZ)

Camera settings suitable for three types of stain methods are assigned to these buttons.

HE: HE stain

PAP: Papanicolaou stain

AZ: Azan stain

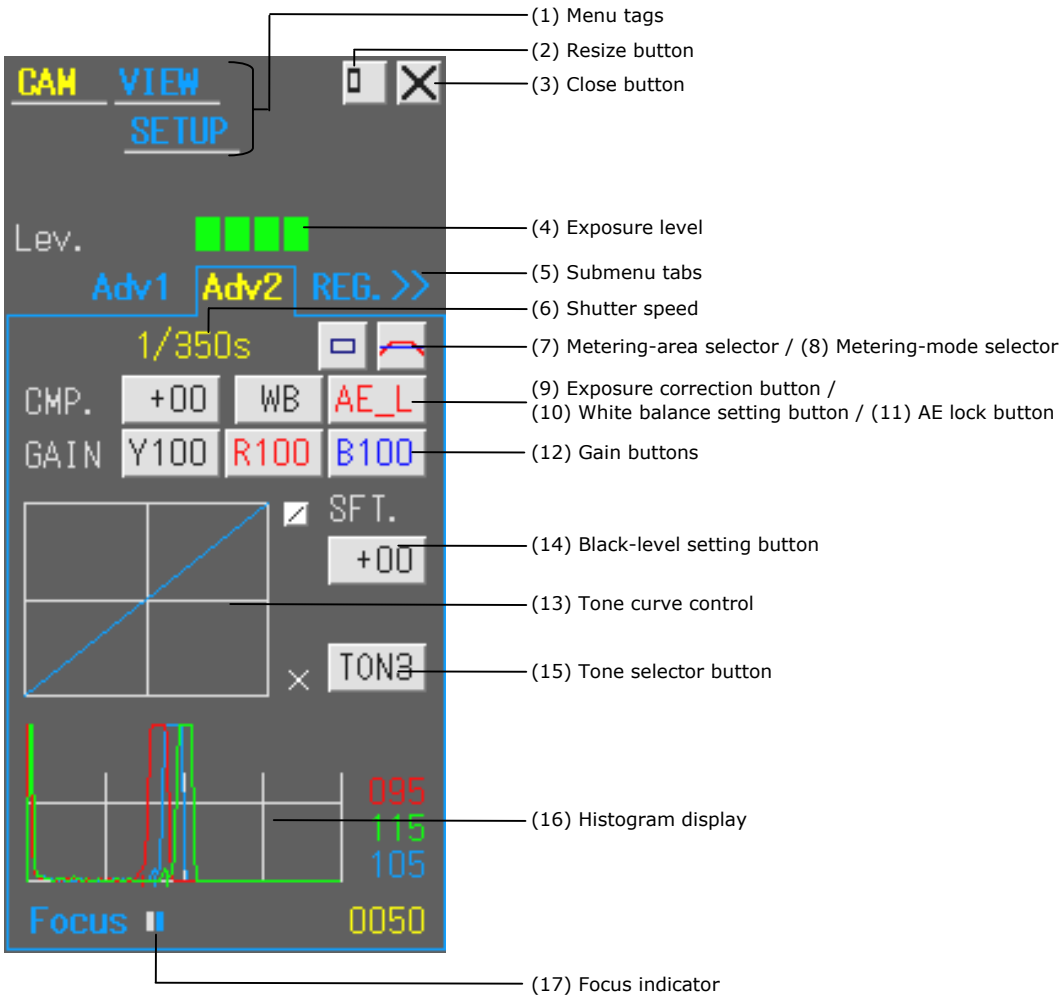
(23) Info box

Text information saved along with the custom mode during custom-mode saving is displayed here.

(24) Focus indicator

Shows the subject’s focusing status, both in bar and numeric form. When adjusting the focus, search for a position that provides the largest number of bars and the highest focusing number.

1.2 Adv2 submenu



(1) Menu tags (CAM, VIEW, SETUP)
Allow you to move among menus

(2) Resize button (▯)
Changes the menu size

(3) Close button (☒)
Closes the menu and returns you to the Multi screen

(4) Exposure level (Lev.)

Shows for guidance purposes whether the current exposure level is appropriate

Light-blue bar:Underexposure
Green bar: Appropriate exposure
Red bar: Overexposure

If the light-blue or red bar appears in the absence of exposure correction, the COOLSCOPE is unable to control its exposure. Therefore, change the image brightness using the exposure correction button (CMP.) so that the green bar appears.

(5) Submenu tabs (Adv1, Adv2)

Allow you to move among submenus

(6) Shutter speed

The correct shutter speed setting is displayed.

(7) Metering-area selector button

Narrow a1

Slightly narrow a2

Wide a3

You can select which part of the image is to be metered for determination of the exposure level. Normally, select Wide.
Select Narrow to avoid effects from the surrounding areas of the screen.
You can set the size and the position of the area freely on a1 to a3.

* Displaying and setting photometry area The photometry range is displayed with a red frame for a limited time when the size of the photometry area is changed. The red frame is kept displayed when the icon is right-clicked with the mouse. When the icon is right-clicked again, the (photometry area button) is displayed with a frame, and you will have a chance to set the metering-area. Operate the mouse to set the area. By dragging the frame of the photometry area, you can change the photometry area size. By dragging the center of the photometry area, you can change the photometry area position. When the icon is further right-clicked, the red frame disappears. For registration of the set photometry area, refer to Section 1.3, "REG1 submenu."

(8) Metering-mode selector button

Average metering

Peak-hold metering

A metering mode can be selected to determine the exposure level. Normally, select Average metering.

Selectively use these modes as follows, as the circumstances demand:

- When there is little variation in brightness over the entire image under a bright field of view
  → Select Average metering.
- When making the background white even whiter
  → Select Peak-hold metering and select a positive value for exposure correction.
- When the subject is black in places and the background is almost entirely black
  → Select Peak-hold metering.

(9) Exposure correction button (CMP.)

Allows the screen brightness to be changed. Left-clicking on the button increases the adjustment value, while right-clicking on it reduces the value. Select a positive value to make the screen brighter, and a negative value to make it darker.

(10) White balance setting button (WB)

Allows setting of the white balance. The white balance cannot be set in the case of overexposure or underexposure. Confirm that the green bar appears at the exposure level before initiating white balance setting.

<White balance setting procedure>

1) Click on the ☒ button to return to the Multi screen.
2) Click on a specimen-free area of the macro image. At this time, if the screen is too dark or if white areas appear at intervals, use the [AE] button to make the necessary adjustments.
3) Display the Details menu by clicking on the [SETTING] button.
4) Display the CAM menu by clicking on the CAM tag.
5) Display the Advn. submenu by clicking on the Advn. tab.
6) Click on the [WB] button (white balance setting button) to set the white balance.

(11) AE lock button (AE_L)

The COOLSCOPE constantly adjusts its exposure to achieve the optimal image brightness. Clicking on the [AE_L] button stops this adjustment, thus fixing the screen brightness. This button functions identically to the controller's [AE_L] button. Either button can be used to enable or disable the AE_L.

(12) Gain button (GAIN Y***, R***, B***)

Allows adjustment of the image brightness and color balance. Change the Y level to adjust the image brightness, which is not finely adjustable using the exposure correction button (CMP). Change the R and B levels to adjust the image color balance with reference to G. Normally, set them at 100%. Gain levels below 100% will result in a reduced output saturation level. Gains in excess of 100% may be set.

(13) Tone curve control

Draw a tone curve by dragging the curve. The total characteristic of the tone curve will be calculated on the basis of the tone curve displayed in the tone curve control box. Therefore, to draw a curve from scratch, select LINR as the base curve.

For details to save the curve data, refer to "(3) Registering the tone setting" in Section 1.3, "REG1 submenu".

(14) Black-level setting button (SFT.)

To reduce flares and noises in dark areas of the image or to sharpen the dark areas of the image, specify a negative value.

(15) Tone selector buttons (TON1 to TON4, LINR, TON6, and TON7)

Seven options are available. The contrast changes with each option. Select a tone that suits your observation while checking it on the monitor.

TON1: Wide dynamic range

Should be selected for a specimen with high contrast, requiring shades of gray from dark to bright areas.

TON2: Low contrast

Should be selected when low contrast is required.

Recommended specimen: Cells, tissues, and general subjects

TON3: Standard contrast

Should be selected for normal image capture

Recommended specimen: Cells, tissues, and general subjects

Ton4: High contrast

Should be selected when high contrast is required. This option provides a sharper image.

Recommended specimen: Cells, tissues, and general subjects

LINR: Linear

Use this tone to get a proportional image to the camera. This is used to examine the difference in light intensity of photographed data.

TON6: Metal tissue

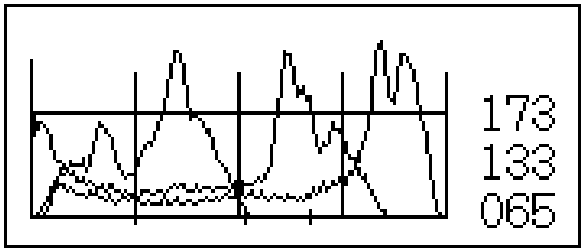
Use this tone to suppress unevenness in bright parts for high-contrast image capturing.

TON7: Enhanced contrast

Use this tone to enhance the contrast.

(16) Histogram display

The COOLSCOPE calculates brightness distribution of the image and displays it as a histogram.



This histogram indicates the distribution of brightness of each R, G, and B color, and can be used for fine adjustment of the exposure level.

- The horizontal axis indicates the color brightness. The leftmost position is the darkest and the rightmost position is the brightest.
- The vertical axis indicates the frequency of occurrence, which is normalized by the maximum value.
- The average histogram values of each color are shown in numeric form at the right edge, and shown by levels at the bottom.

How to read and set exposure levels

If the brightness distribution is concentrated on the right edge of the histogram, it means that the highlighted parts of the screen are saturated. Conversely, if the brightness distribution concentrates on the left edge of the histogram, it means that the low-lighted parts of the screen are blacked out.

Although it is ideal if no parts on the screen are saturated or blacked out, exposure may have to be adjusted depending on the subject.

If an area of interest on the screen is highlighted, adjust the exposure so that the distribution will be shifted toward the left. If an area of interest is low-lighted, adjust the exposure so that the distribution will be shifted toward the right.

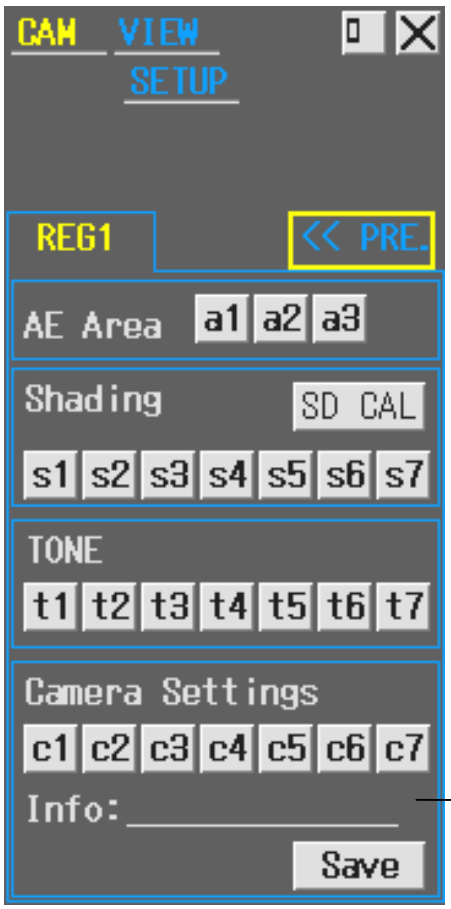
Knowing the exact level of exposure that is needed while you adjust the exposure will help to prevent insufficient gradation during image processing.

(17) Focus indicator

Shows the subject's focusing status, both in bar and numeric form. When adjusting the focus, search for a position that provides the largest number of bars and the highest focusing number.

1.3 REG1 submenu

The Reg1 submenu enables registration of metering-area, shading, tone, and custom mode settings.



(1) Registering the metering-area setting

Use the metering-area button on Adv1 to create the metering-area.

After the metering-area is created, the a1 to a3 buttons become available.

Select a button to be registered, and press Save to complete the registration.

(2) Calculating and registering the shading correction

Perform the shading correction for the illumination and the optical system. This function must be executed without a shielding object.

Press SD CAL to start the shading correction calculation.

After the calculation, s1 to s7 buttons become available.

Select a button to be registered and press Save to complete the registration.

* If shading is excessive, correct calculation data may not be obtained.

(3) Registering the tone setting

Specify a user tone on the Adv2 menu.

After setting the tone, t1 to t7 buttons become available.

Select a button to be registered and press Save to complete the registration.

(4) Saving a custom mode

A set of settings, such as various image capture conditions, can be saved as a custom mode. The saved custom mode can easily be called up using one of the [c1] to [c7] buttons. A custom mode can be saved in accordance with the procedure described below.

1) Specify image-capture conditions, such as the camera operation mode and exposure, from the Adv1 menu.

NOTE:	Press [Default] button to clear all settings back to their factory settings.

2) Select the REG tab to move to the REG1 menu.

3) Select a custom-mode number from [c1] through [c7] buttons.

4) Click on the Info input box and enter characters. Up to 16 characters can be entered.

5) When you are finished, press [Save] buttons to save the settings.
Note that if you move to the REG1 menu while the AE_L is enabled, [AE_L] button is displayed red. To save the settings after canceling the AE_L, press [AE_L] button to unlock it and then save the settings.

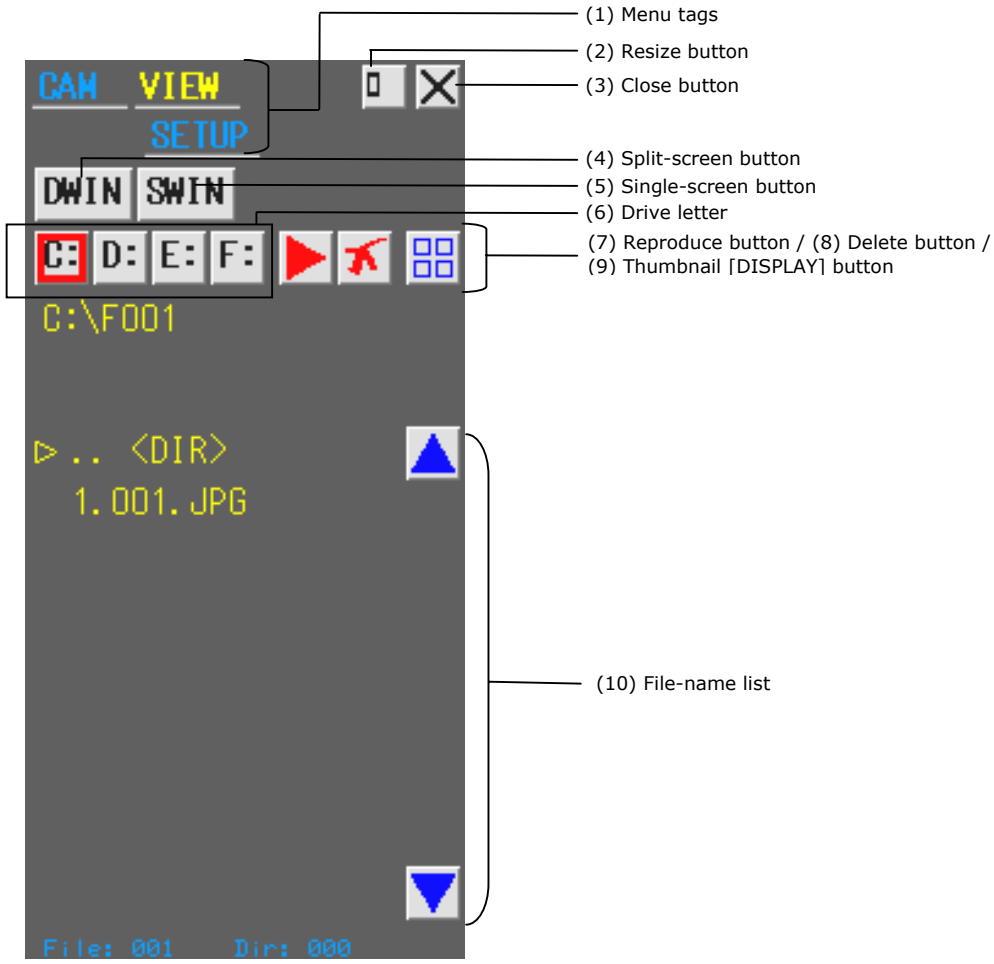
2 VIEW menu (splitting the screen, deleting stored images)

The VIEW menu allows the screen to be split into two halves, and enables images saved on the medium to be reproduced or deleted.

1) Click on the [SETTING] button. The Details menu is displayed.

2) Display the VIEW menu by clicking on "VIEW" at the top of the menu.

3) Click on the ☒ button at the upper right corner of the menu to return to the Multi screen.



(1) Menu tags (CAM, VIEW, SETUP)
Allows you to move among menus

(2) Resize button (▯)
Changes the menu size

(3) Close button (☒)
Closes the menu and returns you to the Multi screen

(4) Split-screen button (DWIN)

Splits the screen into left and right halves

Left half: Freeze-frame image at the moment of clicking. Clicking on the Reproduce button displays the reproduction screen.

Right half: Live image. The freeze-frame image on the left is updated each time this button is clicked.

(5) Single-screen button (SWIN)

Restores the split screen to a single screen

(6) Drive letter selection button

When a medium is connected to the COOLSCOPE, one of the drive letters is assigned to the medium. One of the four drive letter buttons, "C:", "D:", "E:", and "F:", on the menu, which corresponds to the connected medium, is changed from "gray" to "white."

In the case of a CF card, "C:" is assigned to it without exception. When a USB memory is connected, either of "D:", "E:", and "F:" is assigned to it.

Select a drive letter in the following manner:

A. Put the cursor on a target drive letter, and the periphery of the drive letter will be highlighted in yellow.
B. Click on it with the mouse.
C. The periphery of the selected drive letter is highlighted in red.

When a drive letter is selected, the folder/file name in the medium is displayed on the menu.

(7) Reproduce button ( )

Reproduces the images saved in the medium. The uppermost file in the file list at the lower half of the menu is reproduced. (Directly clicking on the name of a desired file at the lower half of the menu also reproduces its image without using this button.)

(8) Delete button ( )

Deletes the images saved in the medium. The uppermost file in the file list at the lower half of the menu is deleted.

(9) Thumbnail [DISPLAY] button ( )

Displays a thumbnail of the file stored in the specified directory among those images saved in the medium. A thumbnail of the file, saved in the same directory as that of the file at top of the list in the lower half of the menu, is displayed. If there are nine or more image files in a directory, you can switch between pages by clicking on the button.

(10) File-name list

This list displays the directories and file names of the images saved in the medium. Use the Δ and ∇ buttons to scroll through the file names. Click on a desired file name to reproduce that file.

3 SETUP menu (network, date and time, and printer settings)

The SETUP menu allows you to set up the COOLSCOPE for network connection, set the date and time, and set up the printer.

1) Click on the [SETTING] button. The Details menu is displayed.

2) Display the SETUP menu by clicking on "SETUP" at the top of the menu.

3) The SETUP menu contains four submenus: Power On Settings, NetWork Settings, File Settings, Additional Settings. Clicking on the buttons at the top of the menu allows you to move among submenus. Click on the [Return to Window] button to return to the CAM menu. Settings selected in the SETUP menu remain saved even when the COOLSCOPE is shut down.

- **Power On Settings**
  This submenu is designed to select the device on the USB (D) connector, to adjust the color balance of the monitor output and to display the version information of the firmware.

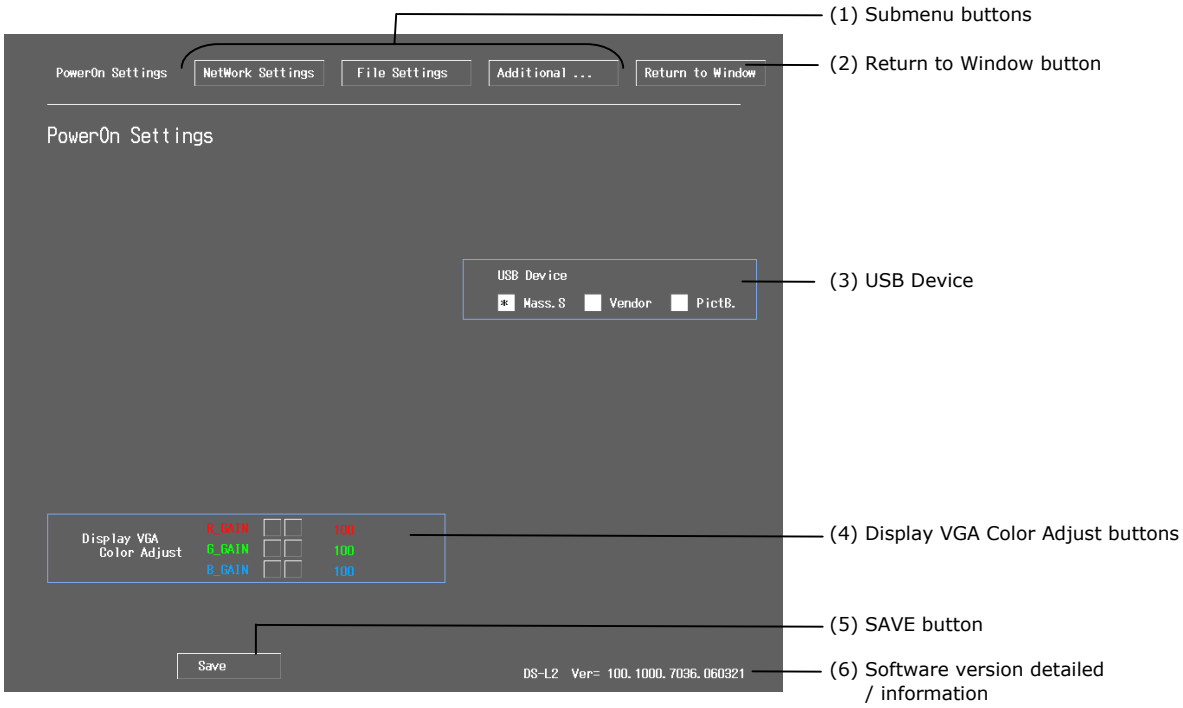
- **NetWork Settings submenu**
  This submenu is designed to make necessary settings for connecting the COOLSCOPE to the network, operating the COOLSCOPE via the network, saving image data to the FTP server, and viewing COOLSCOPE images from an external PC.

- **Additional Settings submenu**
  This submenu allows you to set the date and time, change the mouse-pointer response speed, and set up the printer.

- **File Settings**
  This submenu allows you to format a medium (CF card or USB memory).

4) Click on the [Return to Window] button at the upper right corner of the menu to return to the CAM menu.

3.1 Power On Settings submenu



(1) Submenu buttons

To show another submenu, click here.

(2) Return to Window button

To return to the CAM menu, click this button.

(3) USB Device

Specify the USB device connected to the USB (D) connector.

Mass.S: The USB (D) connector is connected to the PC to use mass storage function. In the mass storage function, you can read/write from/to an external medium set to the COOLSCOPE or take captured images in the PC.

Vendor: This is not available at present.

PictB.: The USB (D) connector is connected to a printer supporting PictBridge to enable direct print of captured images.

(4) Display VGA Color Adjust buttons

To adjust the color balance of the monitor output, use these buttons: R_GAIN for R contrast, G_GAIN for G contrast, and B_GAIN for B contrast.

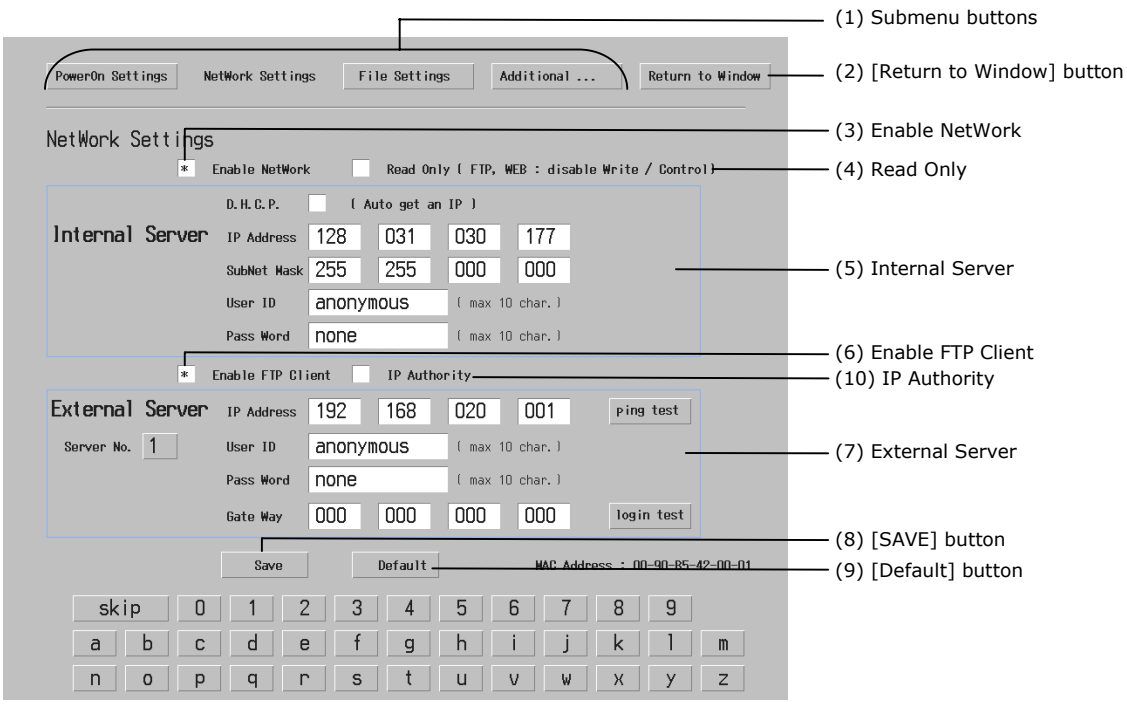
(5) SAVE button

To save the settings, press this button.

(6) Software version detailed information

The characters at the lower right indicate the software version.
The first three characters (numerals), 100 in Ver=100.1000.7036.860321 on the example , are the version number.

3.2 NetWork Settings submenu


(1) Submenu buttons
(2) [Return to Window] button
(3) Enable NetWork
(4) Read Only
(5) Internal Server
(6) Enable FTP Client
(10) IP Authority
(7) External Server
(8) [SAVE] button
(9) [Default] button
PowerOn Settings
NetWork Settings
File Settings
Additional ...
Return to Window
NetWork Settings
Enable NetWork
Read Only (FTP, WEB : disable Write / Control)
D.H.C.P.
(Auto get an IP)
Internal Server
IP Address 128 031 030 177
SubNet Mask 255 255 000 000
User ID anonymous (max 10 char.)
Pass Word none (max 10 char.)
Enable FTP Client
IP Authority
External Server
IP Address 192 168 020 001
ping test
Server No. 1
User ID anonymous (max 10 char.)
Pass Word none (max 10 char.)
Gate Way 000 000 000 000
login test
Save
Default
MAC Address : 00-90-85-42-00-01
skip 0 1 2 3 4 5 6 7 8 9
a b c d e f g h i j k l m
n o p q r s t u v w x y z

Caution!	If the D.H.C.P. is enabled or disabled or the IP address is changed, select SAVE, shut down the COOLSCOPE, and then restart it.

(1) Submenu buttons (NetWork Settings, Additional Settings)

Allows you to move among submenus

(2) [Return to Window] button

Returns you to the CAM menu

(3) Enable NetWork

Enables selection of whether the network functions are to be used. To use the network functions, check this box so that an asterisk (*) appears.

[*] = Enables the network functions

[ ] = Disables the network functions

(4) Read Only (FTP、WEB: disable Write/Control)

Allows you to write-enable or write-disable the Web and FTP server.

To operate the COOLSCOPE from another PC through the Web screen, as when magnifications are changed, uncheck this box so that the asterisk (*) disappears. Note, however, that this option may be left write-disabled if you simply wish to retrieve images.

[*] = Write/COOLSCOPE operation disabled

[ ] = Write/COOLSCOPE operation enabled

(5) Internal Server

Specify the COOLSCOPE's IP address, subnet mask, user ID, and password.

Refer to P.76 "Settings for improved security" for details on how to set a password.

- D.H.C.P.

Allows specification of whether or not an IP address should be automatically obtained by the D.H.C.P. server. (If an IP address is to be obtained automatically, the D.H.C.P. server must exist on the network.) To access the COOLSCOPE from another networked PC through the Web screen, we recommend that a fixed IP address be obtained by choosing not to automatically obtain an IP address.

[*] = IP address automatically obtained

[ ] = IP address not automatically obtained

- IP Address

Enter the COOLSCOPE's fixed IP address in this box if you choose not to automatically obtain an IP address using the D.H.C.P. server.

- Subnet mask

Enter the COOLSCOPE's subnet mask in this box if you choose not to automatically obtain an IP address using the D.H.C.P. server.

Example of Internal Server settings

- When automatically obtaining an IP address

D.H.C.P [*] (Auto get an IP)←Make "*" appear.

IP Address Automatically set after restart

Subnet Mask Automatically set after restart

NOTE: There is a pause before the address is displayed after restart.

- When specifying a fixed IP address

D.H.C.P [ ] (Auto get an IP)

IP Address [192] [168] [010] [002] ←Example

Subnet Mask [255] [255] [000] [000] ←Example

If the IP address contains a one- or two-digit number, add a leading zero (0) or zeros (00) to convert it to a three-digit number.

- User ID

- Password

To improve security, a user ID and password can be specified for limited access to the COOLSCOPE (up to 10 characters). If a user ID is specified, authentication is requested at the time of connection to the browser. It is not possible to log in without entering the user ID and password. If the user ID remains "anonymous," anyone can access the COOLSCOPE. Please keep in mind that transferred images and information are not encrypted.

NOTE: If "none" is left during password entry, "none" will be your password.

(6) Enable FTP Client

Enable specification of whether or not the FTP client function is to be used (data is sent to the FTP server). Check this box so that an asterisk (*) appears when the FTP client function is to be used.

[*] = FTP client function enabled

[ ] = FTP client function disabled

(7) External Server

Specify the server PC's IP address and gateway.

- Server No.

Up to five servers can be saved. Assign a number to each server.

- IP Address

Enter the server PC's IP address here.

- User ID

- Password

To improve security, a user ID and password can be specified for limited access to the server PC (up to 10 characters).

If a user ID is specified, authentication is requested at the time of connection to the browser. It is not possible to log in unless the user ID and password are entered. If the user ID remains "anonymous," anyone can access the COOLSCOPE. Please keep in mind that transferred images and information are not encrypted.

NOTE:	If "none" is left during password entry, "none" will be your password.

- GateWay

Sets the gateway address.

Example of External Server settings

Server No. Up to five servers can be saved. Assign a number to each server.

IP Address [192] [168] [010] [001] ←Example

User ID Enter a user ID for login to the server as necessary.

Pass Word Enter a password for login to the server as necessary.

Gate Way [192] [168] [128] [001] ←Example

If the IP address contains a one- or two-digit number, add a leading zero (0) or zeros (00) to convert it to a three-digit number.

- Ping test

  Press a [ping test] button to execute a ping test. This function is designed to check whether the specified server exists on the LAN. The connection test is targeted for the server shown in the IP Address box under External Server. Note that the IP address must be saved in advance by pressing [SAVE] button. If the server responds, "OK Complete!" appears.

  The server may not respond to Ping due to security functions such as packet filter, firewall, and security gateway. In such a case, restart the COOLSCOPE before disabling the security functions and carrying out the Ping test again. Note also that there is no problem with the absence of a server response to Ping if successful login can be confirmed through the Login test, which is described below.

- Login test

  Press a [login test] button to execute login test. The login test is targeted for the server shown in the IP Address box under External Server, and is carried out using the specified user ID and password. Note that the IP address must be saved in advance by pressing [SAVE] button. In the event of unsuccessful login, check the settings on the PC and the COOLSCOPE settings.

(8) [SAVE] button

Saves the settings

(9) [Default] button

Resets the settings to their defaults

(10) [IP Authority]

Used to specify IP addresses permitted to connect to the COOLSCOPE. To designate IP addresses allowed to connect to the COOLSCOPE, display an asterisk ("*") and register authorized IP addresses by the procedures given below. (Up to eight IP addresses.)

Registering IP addresses authorized to connect

1) Insert a CF card into the PC.
2) Create a folder named "\NET" on the CF card.
3) Create a file and list of IP addresses authorized to connect.

- Example of data -

192.168.10.2
192.168.10.10
192.168.10.36
192.168.21.*

(You can use the wild card character ("*"). In this example, the wild card character * represents all values from 1 through 254.)

4) Assign a name with the ".ip" extension to the text file and save it to the "\NET" folder.

- Example of filename -

Autho.ip

5) Insert the CF card into the COOLSCOPE.

6) Connect to the COOLSCOPE from the external PC using Telnet and execute a "w_IPA" command to register the IP addresses.
(Refer to "3.5 Using Telnet Commands to Operate on the COOLSCOPE" in Chapter VIII.)

3.3 File Settings submenu

(1) Submenu buttons

To show another submenu, click here.

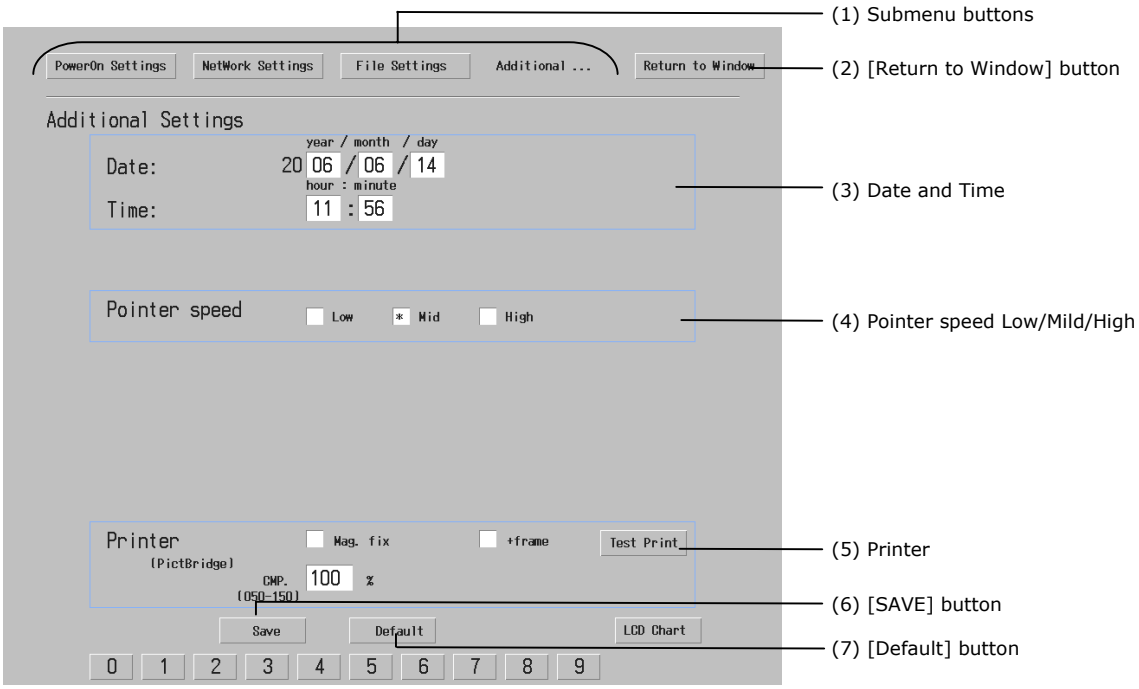
(2) Return to Window button

To return to the CAM menu, click this button.

(3) Format button

To format the medium (CF card or USB memory), click this button. For details, refer to "1.2 Notes on Using an External Recording Medium" in Chapter V.

3.4 Additional Settings submenu



(1) Submenu buttons (NetWork Settings, Additional Settings)

Allows you to move among submenus

(2) [Return to Window] button

Returns you to the CAM menu

(3) Date and Time

Enter the date and time here.

NOTE:	If the main power is turned off and the COOLSCOPE is idle for a long time, the clock in the COOLSCOPE may lose time or stop. Approximately four days is the limit. If the main power is turned off for several days, reset the clock.

(4) Pointer speed Low/Mild/High

Allows selection of a mouse pointer speed

(5) Printer

- Mag. fix

  Without check: Normal print mode. Images will be automatically resized to fit the paper and then printed out.

  With check: Real 10 print mode. Images will be resized in accordance with CMP value setting and then printed out.

Caution!	A PictBridge compatible printer has its original magnification for the print out. To use the real 10 print function, check and see the CMP value setting for your printer.

- Test Print button
- + frame:
  Check here to print out an image with a frame.
- CMP. (50 to 150%):
  Specify the magnification for the real 10 print mode.

PictBridge standard:

The PictBridge standard was established for the communication between digital cameras and printers. With this standard, an image in a digital camera can be printed out directly with a printer without any PC.

For details, refer to the official site of the PictBridge:

http://www.cipa.jp/pictbridge/

(6) [SAVE] button

Saves the settings

(7) [Default] button

Resets the settings to their defaults

(8) LCD Chart button

Adjust settings on the monitor using the chart incorporated in the COOLSCOPE. Follow the procedure described below to make this adjustment.

A. Press the LCD Chart at the lower right corner of the screen. A monochrome mesh chart with one dot pitch will be displayed.
B. Adjust the clock phase and clock pitch of the monitor. Refer to the instruction manual provided with your monitor for detailed information on performing adjustments. Some monitors have an automatic adjustment function.
C. Once you have finished adjusting the display, click on the <<BACK button.

VIII

Networking Functions

1 Outline

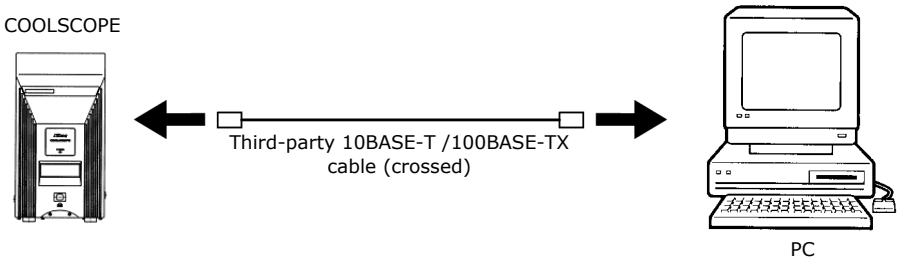
You can use a PC browser (e.g., Internet Explorer, Netscape Navigator) to remote-control the COOLSCOPE from your PC or to load images into your PC.

2 Connecting Equipment

Turn OFF the COOLSCOPE and the PC, and consult your network administrator before connecting them.

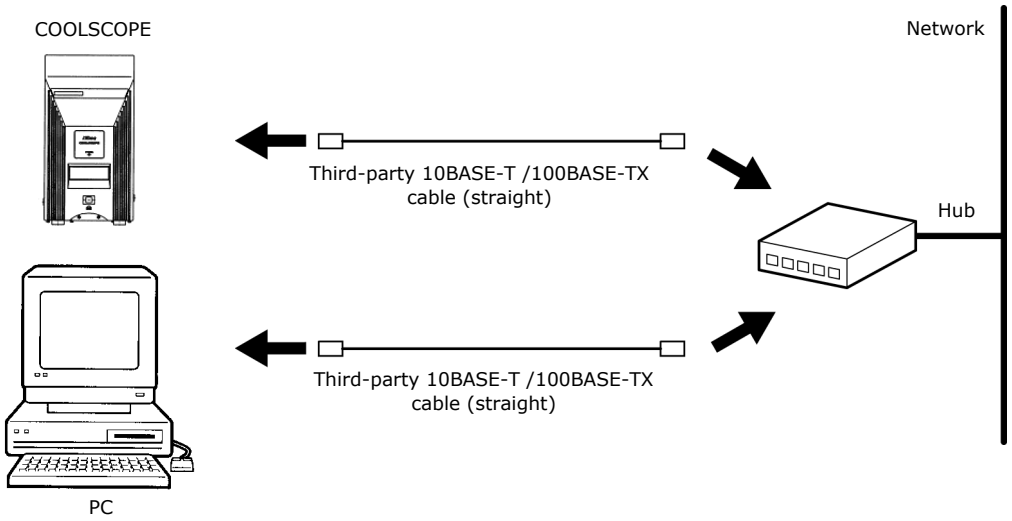
See the picture below for connection.

2.1 Connecting the COOLSCOPE directly to the PC



1) Connect the display or projector to the COOLSCOPE's MONITOR terminal.
2) Connect the mouse to the COOLSCOPE's USB (H) terminal.
3) Connect the COOLSCOPE's LAN terminal and the PC's LAN terminal with a cross cable.
4) Connect the power cord to the COOLSCOPE's AC inlet.

2.2 Connecting the COOLSCOPE to a network



1) Connect the display or projector to the COOLSCOPE's MONITOR terminal.
2) Connect the mouse to the COOLSCOPE's USB (H) terminal.
3) Connect the COOLSCOPE's LAN terminal and the hub's terminal with a straight cable.
4) Connect the power cord to the COOLSCOPE's AC inlet.

NOTE:	When the COOLSCOPE is used across a network, the screen of the COOLSCOPE must the Multi screen (initial screen) or the Full screen. If a help is shown for an image of a medium, correct images cannot be acquired across the network.

3 Using the COOLSCOPE via a Network

3.1 Typical Method of Use

You can connect the COOLSCOPE and a PC in a network and operate the COOLSCOPE from the PC or exchange image files between the COOLSCOPE and the PC.

There are three methods for operating the COOLSCOPE from a PC:

- Use a WEB browser
- Use an FTP command
- Use a Telnet command

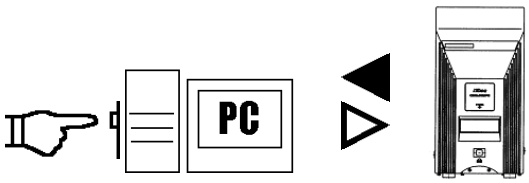
You also can store images on an FTP server from the COOLSCOPE via a network.

Possible operations in each method are described below.

The symbols ◀ and ▶ in the diagrams below indicate the flow of images, while the symbol ▷ indicates the flow of control.

Using a WEB browser to operate the COOLSCOPE from a PC

- **Get images from the COOLSCOPE**
- **Control the COOLSCOPE in a simple way**



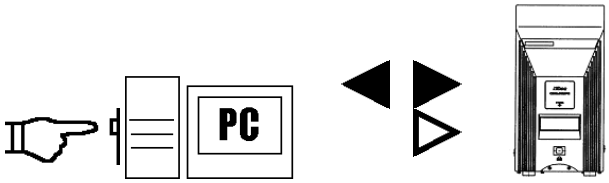
A WEB browser may be used from a LAN-based PC to observe images.

In this case, the COOLSCOPE's HTTP server function is used.

NOTE:	As a rule, although it depends on how frequently images are updated, the COOLSCOPE can only be accessed from up to two PCs at the same time.

Using FTP commands to operate the COOLSCOPE from a PC

- **Get images from the COOLSCOPE**
- **Send and save images to the COOLSCOPE**
- **Advanced control of the COOLSCOPE**

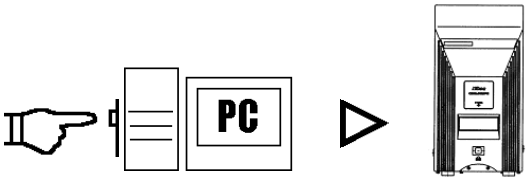


FTP commands may be used from a PC to receive, send, or save image files.

Furthermore, advanced control of the COOLSCOPE is possible using the COOLSCOPE's FTP server function.

Using Telnet commands to operate the COOLSCOPE from a PC

- **Advanced control of the COOLSCOPE**

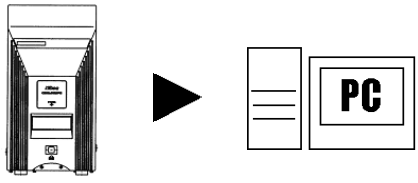


Telnet commands may be used from a PC to achieve advanced control of the COOLSCOPE.

In this case, the COOLSCOPE's Telnet server function is used.

Operating on a PC from the COOLSCOPE

- **Send images to an FTP server**



Images can be transferred to a specified FTP server.

NOTE:	This function cannot be used unless an FTP server facility is available on the PC side.

Because up to five FTP servers can be specified, images can be easily and quickly filed in a personal directory, created separately one for each login user.

Furthermore, when this function is combined with image file base software, a more efficient image filing system may be created.

In this case, the COOLSCOPE's FTP client function is used.

3.2 Network Settings

3.2.1 Items Requiring Confirmation

Confirmation of network environments

A LAN in some COOLSCOPE operating environments may have been set up in a way exclusive to that environment, so be sure to consult your network administrator before setting up a PC. This is necessary to avoid causing problems with the LAN.

Ask your network administrator to confirm the following points:

- Whether FTP can be used in the LAN (only if you wish to use the FTP function)
- Whether image files can be flowed in the LAN
- How IP addresses are managed (fixed or automatic acquisition by DHCP)
  If automatic acquisition of IP addresses, etc., is desired, check whether a DHCP server is available. In automatic IP address acquisition by DHCP, the assigned IP addresses dynamically change. Accordingly, when using a WEB browser to access the COOLSCOPE from a PC, we recommend setting a fixed IP address for the COOLSCOPE.
- Fixed IP address (only when use of it is allowed)
  When a fixed IP address is acquired, a subnet mask and a gateway address are also decided. Note, however, that when you apply for the acquisition of an IP address, you may be requested to supply the MAC address of your product. The MAC address is shown at the lower right corner of the Network Settings screen of the SETUP menu.

Confirmation of the PC that is connected to a network

- OS and browser versions
  Applicable OSs and Web browsers depend on the URL to be connected. Therefore, select a suitable URL for your PC, OS, and Web browser.
  Besides, there may be a slight difference in operation depending on the OS and browser versions.

URL	Recommended OS and browser
Room1 (Example: http://192.168.10.2/)	Windows 2000 (SP4) Windows XP (SP2) Internet Explorer 6.02 (SP2)
Room2 (Example: http://192.168.10.2/csja.htm)	Windows 2000 (SP4) Windows XP (SP2) Internet Explorer 6.02 (SP2) Firefox (1.5.0.4)
Room3 (Example: http://192.168.10.2/cs.htm)	Windows 2000 (SP4) Windows XP (SP2) Internet Explorer 6.02 (SP2) Firefox (1.5.0.4) Lunascape 3 (3.5) Opera (9.0) Netscape (8.1) Mac OS X (Ver. 10.3 or later) Firefox (1.5.0.4) Opera (9.0) Safari (1.2)

  The URL addresses in the above table are examples of the case when the IP address of the COOLSCOPE is set as 192.168.10.2. Use your COOLSCOPE address in place.
  Refer to "3.2.2 Setting Essential Items - Network Settings" for the setup procedure of the IP address of the COOLSCOPE.

- Whether an OS and an FTP server are installed in the PC for the FTP server
  The PC that has the FTP server function is required to save the image from the COOLSCOPE to the FTP server. Check that the PC to be used as a server has the following applicable OS.

  Applicable OS

  Windows 2000 (SP4)

  Windows XP Professional (SP2)

  Mac OS X (ver 10.3 or later)

3.2.2 Setting Essential Items—Network Settings

In this instruction manual, explanation are given assuming that the IP address of the COOLSCOPE is 192.168.10.2, that of the server is 192.168.10.1, and that of the subnet mask is 255.255.0.0., while the gateway address is 192.168.128.1.

Of course, you should use the IP address assigned to you by your network administrator.

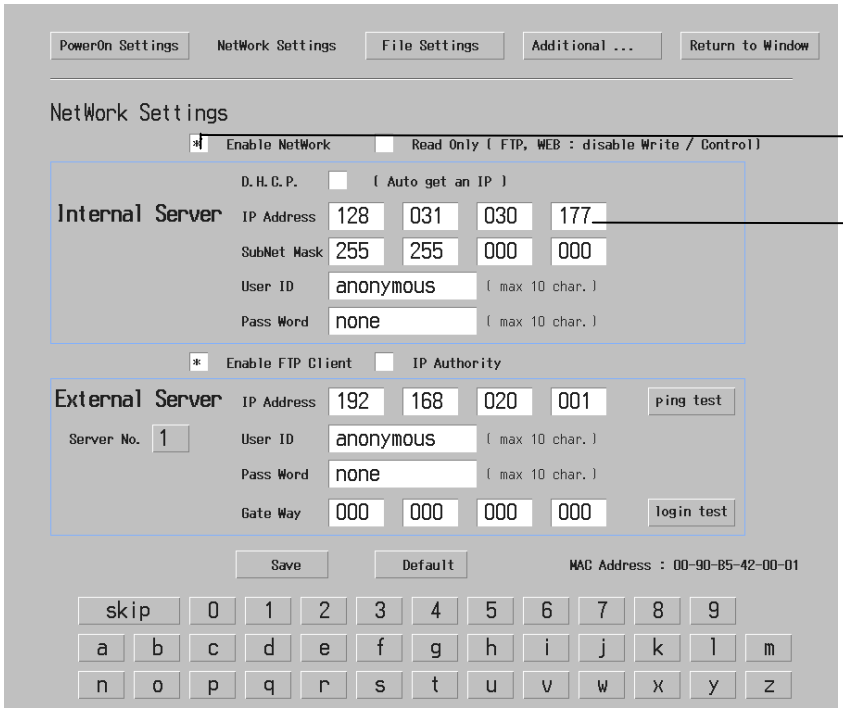
We must assume that network settings on the PC side (LAN connection) are complete.

Please consult your network administrator for details.

Network settings of the COOLSCOPE

If you are going to connect the COOLSCOPE to a LAN, you need to enable it for network operation and set its own address.

To make network settings on the COOLSCOPE, select "Network Settings" from the SETUP menu to call up the Network Settings screen shown below.


PowerOn Settings
NetWork Settings
File Settings
Additional ...
Return to Window
NetWork Settings
Enable NetWork
Read Only (FTP, WEB : disable Write / Control)
D.H.C.P.
(Auto get an IP)
Internal Server
IP Address 128 031 030 177
SubNet Mask 255 255 000 000
User ID anonymous (max 10 char.)
Pass Word none (max 10 char.)
Enable FTP Client
IP Authority
External Server
IP Address 192 168 020 001
ping test
Server No. 1
User ID anonymous (max 10 char.)
Pass Word none (max 10 char.)
Gate Way 000 000 000 000
login test
Save
Default
MAC Address : 00-90-B5-42-00-01
skip 0 1 2 3 4 5 6 7 8 9
a b c d e f g h i j k l m
n o p q r s t u v w x y z

Enables/disables network operation.

Sets the IP address of the COOLSCOPE.

Enable Network

To use a network, always select this check box.

Read Only (FTP, WEB : disable Write/Control)

This is to disable writing to the internal files of the COOLSCOPE when it is operated using a WEB browser or FTP command. When this check box is selected, you cannot write to the internal files.

If you only want to get images from the COOLSCOPE, leave this check box selected.

Internal Server

Set the IP address, subnet mask, user ID, and password of the COOLSCOPE.

Refer to "Settings for improved security" described below for details on how to set a password.

- When automatically acquiring an IP address

  D.H.C.P [*] (Auto get an IP)

  IP Address Automatically set after restarting

  Subnet Mask Automatically set after restarting

NOTE:	The COOLSCOPE takes some time after it restarts before the addresses are displayed.

- When setting a fixed IP address

  D.H.C.P [ ] (Auto get an IP)

  IP Address [192] [168] [010] [002] ←Input example

  Subnet Mask [255] [255] [000] [000] ←Input example

  If any entry in the IP address consists of two digits or one digit, add "0" or "00" at the beginning so that entry will consist of three digits.

Click the input box and enter an address value. If you missed entering any address value, hold down [Skip] button on the screen keyboard while you skip to the last entry of the address, then reenter the correct value.

Once you have finished with all the settings, press [SAVE] button and then restart the COOLSCOPE.

To revert to the initially set value, press [Default] button and then [SAVE] button and restart the COOLSCOPE.

Settings for improved security

To improve security, make the following settings on the Network Settings screen.

Be aware that the transferred images and information are not encrypted.

Limiting logins by User ID and Password settings

In the Internal Server, set a user ID and a password.

User ID	Input (up to 10 characters)
Pass Word	Input (up to 10 characters)

Once you set a user ID, you will be asked to provide authentication when connecting to the COOLSCOPE from a browser. You cannot log in unless you supply your user ID and password.

If the user ID is defaulted to "anonymous," anybody can access your COOLSCOPE via a network.

NOTE:	Note that if you save a password as the default word "none" without changing it, the word "none" will become your password.

Restriction of IP access

To restrict the IP address that can be accessed from the COOLSCOPE, select the IP Authority checkbox. And register the IP address allowed to access according to the following procedure.

Registration method of the IP address allowed to access

1) Set the CF card or USB memory on the PC.

NOTE:	A card adapter may be required.

2) Creat the \NET directory in the CF card or USB memory.
3) Creat a text file on which the IP addresses allowed to access are indicated.

   Example indication

   192.168.10.1

   192.168.10.10

   192.168.10.36

   192.168.10.21.*

   A wildcard, *, is available. (1 to 254)
4) Supply the extension .jp to the text file and save it under the \NET directory. (ex. Autho.jp)
5) Insert the CF card or USB memory into the COOLSCOPE.
6) Access the COOLSCOPE from an external PC via Telnet and execute the w_IPA command to register the IP addresses. (Refer to the instructions in this chapter "3.5 Operation by Telnet command".) Insert a CF card or a USB memory before executing the w_IPA command. Then, \NET directory of the inserted CF card or USB memory is searched and the IP address of the searched text file with extension .jp is registered.

Save of user's log files (NETLOG function)

The IP addresses and time information of the machine that has accessed the COOLSCOPE can be recorded. For the access from the WEB browser, access log can be remained only when the user ID is set in the Internal Server of the COOLSCOPE. But the access log is cleared after turning off the COOLSCOPE.

When executing the Telnet w_NLGON command, default setting is changed and the NETLOG can be displayed.

To load the log data, access to the COOLSCOPE by FTP command and load NETLOG.txt in the RAMIBOX directory.

The size of the NETLOG.txt is 64kbyte or less. When the buffer gets full, the file is automatically cleared to 0 byte. And then writing starts. However, when the setting that the file is forwarded to an external server by the w_NLFTON command is established, the LOG date is forwarded to the external server when the file is cleared.

The forwarded file is named as NL + month + date + time.txt.

(ex. April 1st 12:00am is named NL040112.txt.)

Telnet command related to the log

w_NLGON indicate the NETLOG

w_NLGOF hide the NETLOG

s_NLGCL clear the contents in the NETLOG

w_NLFTON forward the NERLOG when the buffer is full

w_NLFTOF not forward the NERLOG when the buffer is full

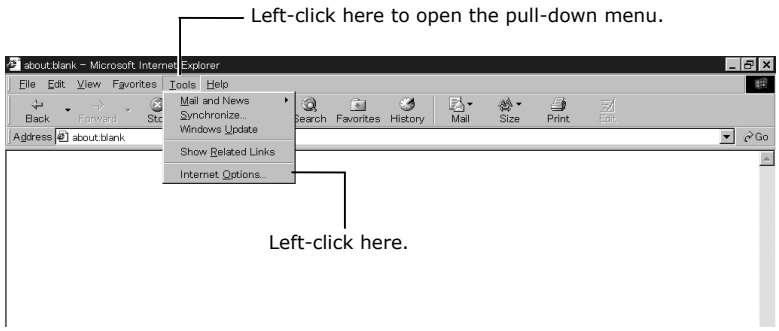
3.3 Operating the COOLSCOPE from a WEB Browser

3.3.1 Setting the WEB Browser

1) Start the PC.
Refer to your computer's user manual for details.

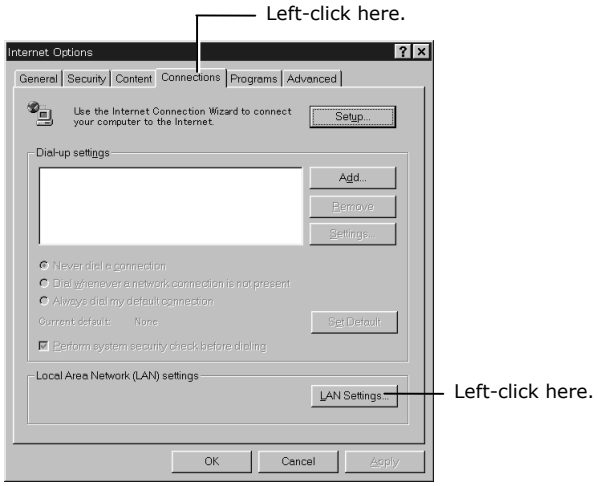
2) Launch Internet Explorer.
Refer to your computer's user manual or the Internet Explorer help function for details.

3) Select [Tools] - [Internet Options].

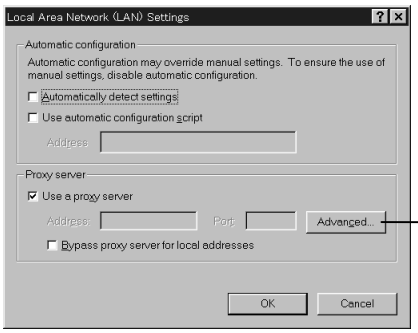


4) Select [Connections].

5) Select [LAN Settings].

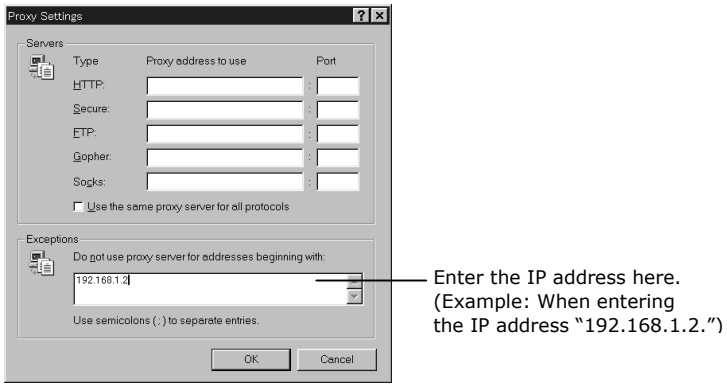


6) Select [Advanced]. If [Advanced] is disabled and you cannot select it, left-click on [Use a Proxy Server] first. A check mark will be displayed, allowing you to select [Advanced].



7) In the [Exceptions] column, write the IP address of the COOLSCOPE. (Refer to "3.2.2 Setting Essential Items – Network Settings" in Chapter VIII for details on the IP address of the COOLSCOPE.)

- Enter a period after every three digits of the IP address.
- If the first digits of the IP address are "00" or "0," do not enter the zeros.



8) Click [OK].
Move the pointer "↑" to the position of [OK] and left-click on it. Repeat this until the screen returns to the one from step 1.

3.3.2 Displaying the WEB screen

Once a PC and the COOLSCOPE are connected through a network, it is possible to check or capture the image that is being shot by the camera head of the COOLSCOPE remotely using a WEB browser. The COOLSCOPE can also be controlled. When you access the COOLSCOPE from a WEB browser, a WEB screen is displayed on which you can operate the COOLSCOPE.

Three WEB screens, Room 1, Room 2, and Room 3 are available. These screens each have their features as described below. For operations, refer to "3.3.3 WEB screen functions."

If multiple PCs simultaneously access one COOLSCOPE through a WEB browser, operation may slow down.

- **ROOM 1**
  Images can be displayed at a predetermined time interval during capturing. The COOLSCOPE can be controlled on the screen. A shorter time interval than that of the ROOM 3 can be selected. Therefore, a real-time image change can be seen on the screen.

  The ROOM 1 screen can be used on the following OSs and browsers:

OS	Browser
Windows 2000 (SP4), Windows XP (SP2)	Internet Explorer 6.02 (SP2)

- **ROOM 2**
  Images can be displayed at a predetermined time interval during capturing. The COOLSCOPE can be controlled on the screen. A shorter time interval than that of the ROOM 3 can be selected. Therefore, a real-time image change can be seen on the screen.

  The ROOM 2 screen can be used on the following OSs and browsers:

OS	Browser
Windows 2000 (SP4), Windows XP (SP2)	Internet Explorer 6.02 (SP2), Firefox (1.5.0.4)

- **ROOM 3**
  Images can be displayed at a predetermined time interval during capturing. The COOLSCOPE can be controlled on the screen. This screen is not appropriate for real-time image observations but has other functions such as Annotation.

To use the ROOM 1 screen, the ActiveX controls must be set up. Refer to "3.3.5 ActiveX Settings." If the ActiveX controls have already set up but no image can be seen, use the ROOM 2 screen.

To use the ROOM 2 screen, the Java applet must be set up. Refer to "3.3.6 Java Applet Settings."

You cannot access the COOLSCOPE with multiple browsers on a PC.

Usually, up to three PCs can access one COOLSCOPE simultaneously at an enough speed.

When multiple PCs access one COOLSCOPE simultaneously, settings for displayed image quality, time interval, and electronic zoom may differ from the preview settings for the ROOM 1, 2, or 3. Images on all browser will be displayed in the condition that the last time setting for the ROOM 1, 2, or 3 operated on a PC.

When the ROOM 1, 2, and 3 are simultaneously previewed, the preview image of the ROOM 3 may have a white line of a few millimeters width on its bottom. But images can be saved without such a line.

NOTE:	The screen shots shown in this section may differ depending on which browser software (or version) is used.

Regarding the use of a browser

- Depending on the PC environment and the browser version, the WEB screens may behave differently or suffer some operational restrictions.
- Do not use the Back button of the browser. If you press the Back button, the displayed image will not be refreshed. In that case, click Refresh on the View menu of the browser to refresh the image.
- In some cases, the screen image may be disturbed in a screen change. Click Refresh on the View menu of the browser to refresh the image.
- A confirmation dialog box may appear when closing the browser. Click OK to close the dialog box.

- When the Pop-up-block function is enabled on the browser, windows of the application software may be blocked. Refer to the browser help and disable the Pop-up-block function.

Displaying the WEB screen

(1) Start the WEB browser.

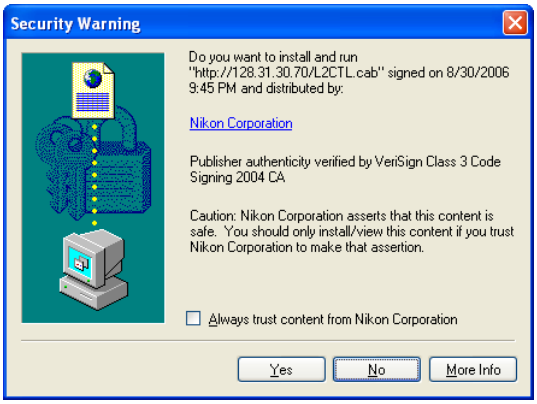
- To use the ROOM 1
  Enter the IP address of the COOLSCOPE into the address box of the browser.
  (example http://192.168.10.2/)
  The WEB screen of the COOLSCOPE appears.
- To use the ROOM 2
  Enter the IP address of the COOLSCOPE and "/csja.htm" into the address box of the browser.
  (example http://192.168.10.2/csja.htm)
  The WEB screen of the COOLSCOPE appears.
- To use the ROOM 3
  Enter the IP address of the COOLSCOPE and "/cs.htm" into the address box of the browser.
  (example http://192.168.10.2/cs.htm)
  The WEB screen of the COOLSCOPE appears.

For details about the ROOM 1, 2, and 3, refer to the following sections.

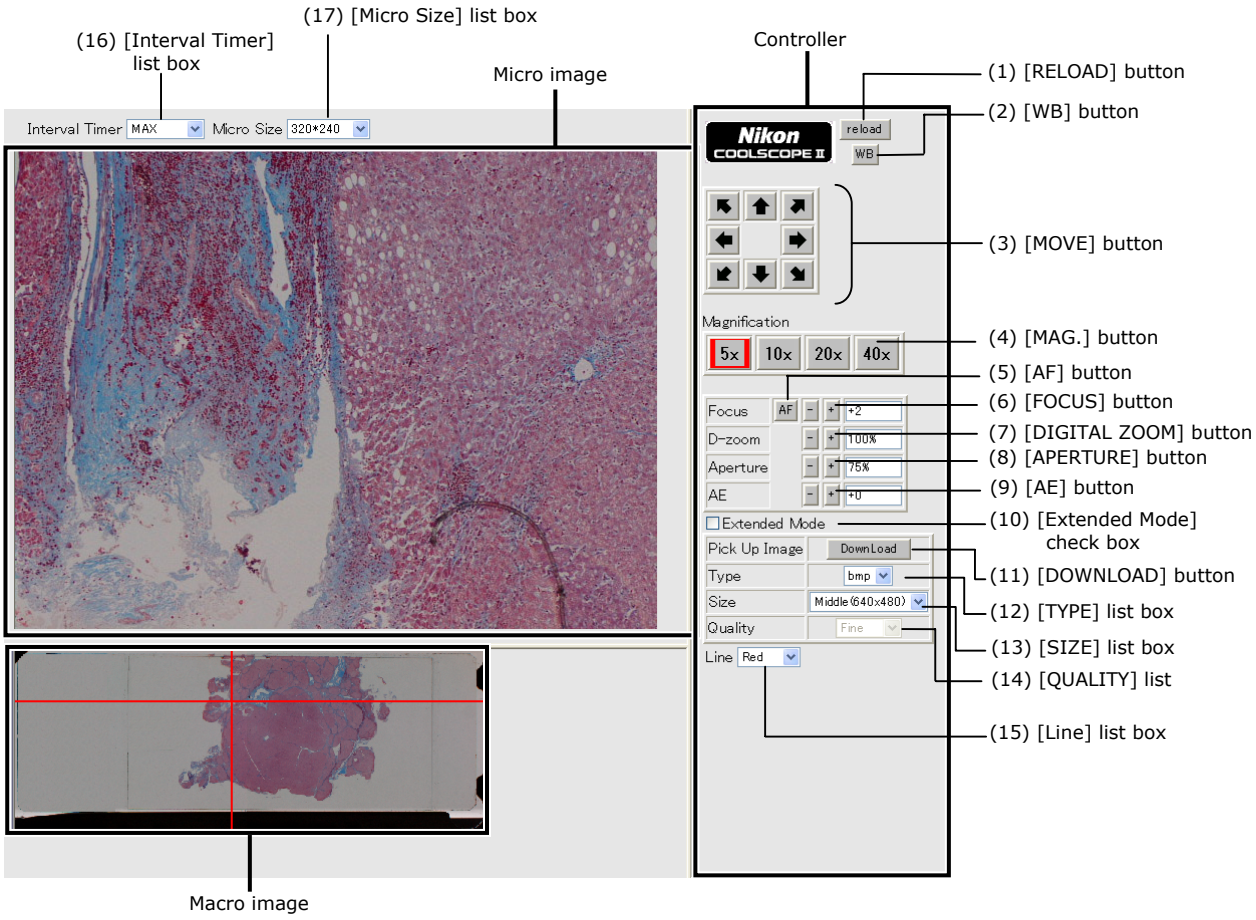
3.3.3 WEB screen functions

ROOM 1

The ROOM 1 screen features the following functions: Observing images can be displayed at a predetermined time interval and captured to the COOLSCOPE. Stream images can be displayed. And the COOLSCOPE body can be controlled.
To use the ROOM 1 screen, the ActiveX controls must be set up. Refer to "3.3.5 ActiveX Settings."
When the ROOM 1 is used for the first time, the following security warning dialog box may appear.


Security Warning
Do you want to install and run "http://128.31.30.70/L2CTL.cab" signed on 8/30/2006 9:45 PM and distributed by:
Nikon Corporation
Publisher authenticity verified by VeriSign Class 3 Code Signing 2004 CA
Caution: Nikon Corporation asserts that this content is safe. You should only install/view this content if you trust Nikon Corporation to make that assertion.
Always trust content from Nikon Corporation
Yes
No
More Info

This program is provided with a digital signature for certification. Therefore, click Yes.



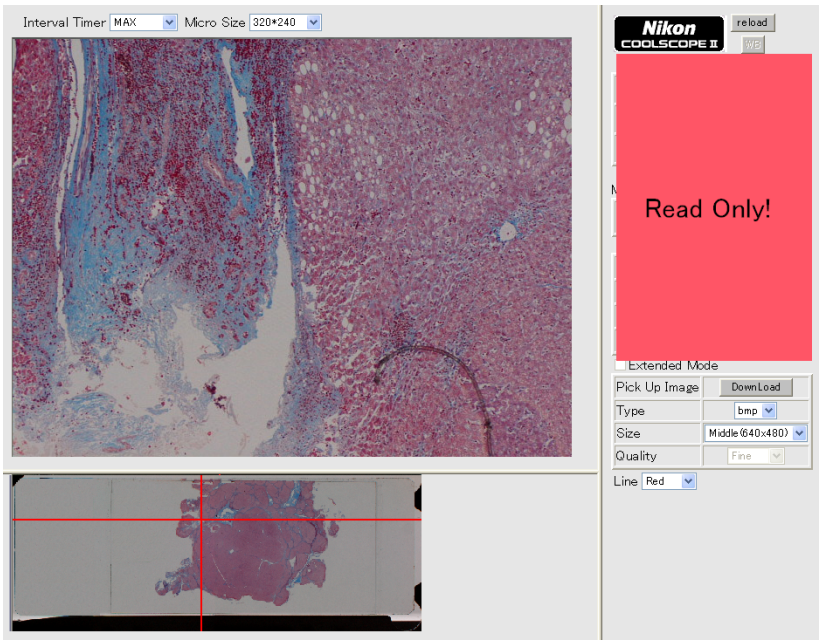
Names and functions of buttons and list boxes

(1) [RELOAD] button	Update the micro image.
(2) [WB] button	Adjust the white balance.
(3) [MOVE] button	Move the observation position.
(4) [MAG.] button	Change the magnification.
(5) [AF] button	Bring the image into focus.
(6) [FOCUS] button	Adjust the image focus.
(7) [DIGITAL ZOOM] button	Electronic zoom.
(8) [APERTURE] button	Adjust the stop.
(9) [AE] button	Adjust the image brightness.
(10) [Extended Mode] check box	Allow enabling/disabling of the Extended Mode function.
(11) [DOWNLOAD] button	Retrieve the micro image from the COOLSCOPE.
(12) [TYPE] list box	Allow selection of an image file format (at the time of micro image retrieval).
(13) [SIZE] list box	Allow selection of an image size (at the time of micro image retrieval).
(14) [QUALITY] list box	Allow selection of a JPEG compression ratio (at the time of micro image retrieval).
(15) [Line] list box	Change the color of the cross line on the macro image.
(16) [INTERVAL TIMER] list box	Allow the selection of intervals for updating the micro image.
(17) [Micro Size] list box	Select the size of the micro image.

The ROOM 1 screen can be used only with the Internet Explorer 6.02 (SP2) on the Windows 2000 (SP4) or Windows XP (SP2).

When multiple PCs access one COOLSCOPE simultaneously and display the ROOM 1 screen, a same image will appear on all PCs. The refresh time intervals for all PCs are the same too. The last settings are used for all browsers on all PCs.

NOTE:	If the Web screen displays the following image, the COOLSCOPE network setting is set to "Read Only." (Refer to "3.2 NetWork Settings submenu" in Chapter VII.)

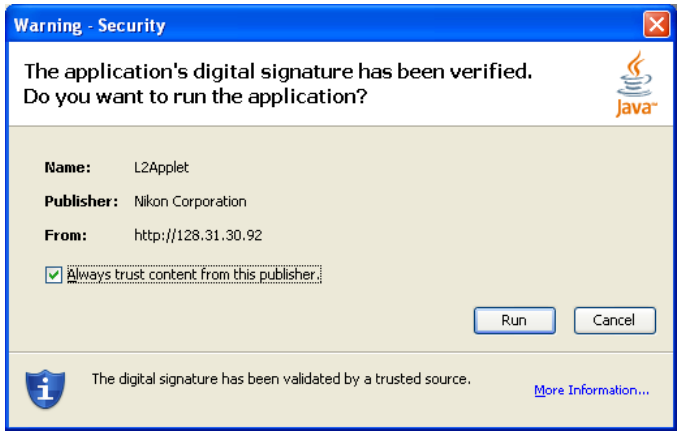


ROOM 2

The ROOM 2 screen features the following functions: Observing images can be displayed at a predetermined time interval and captured to the COOLSCOPE. Stream images can be displayed. And the COOLSCOPE body can be controlled.

To use the ROOM 2 screen, the Java applet must be set up. Refer to "3.3.6 Java Applet Settings."

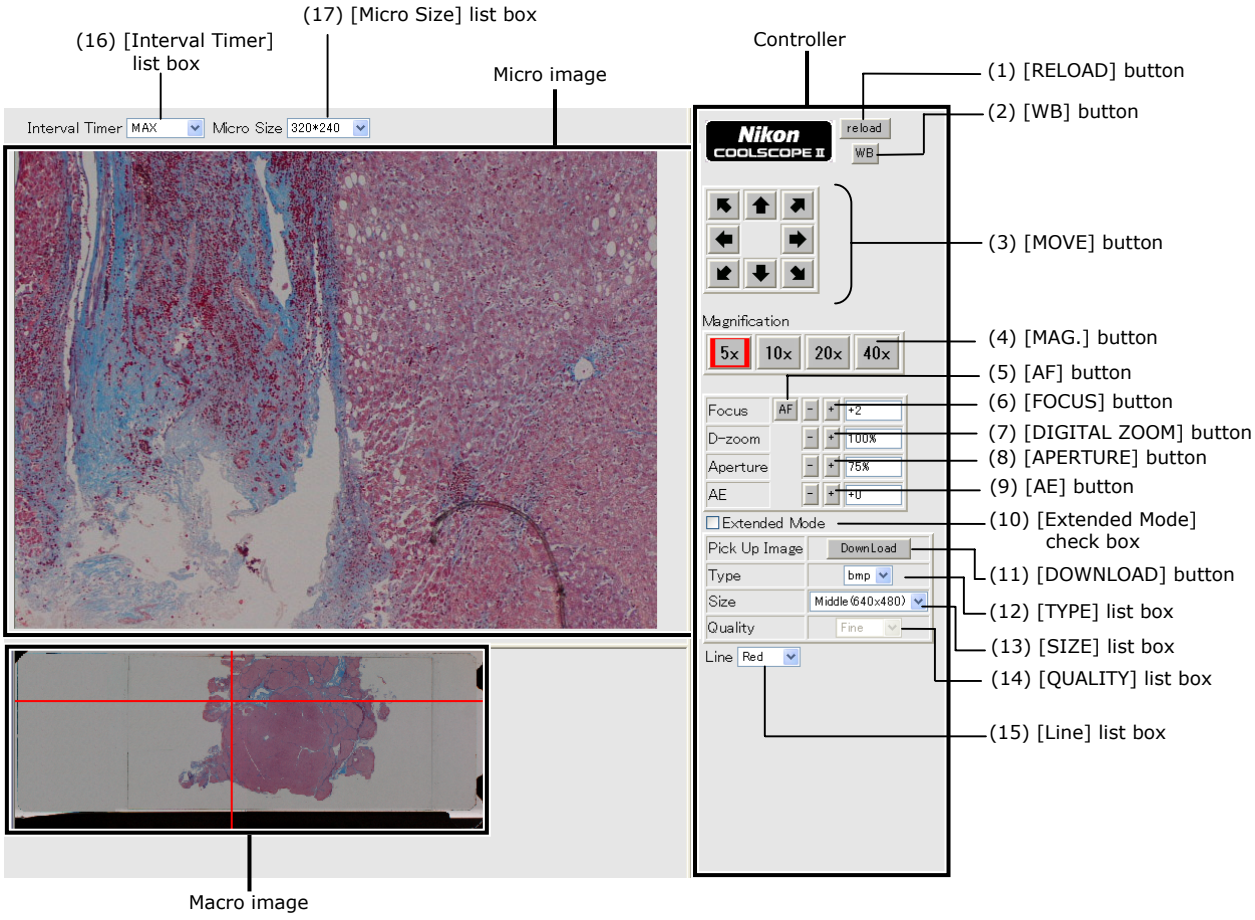
When the ROOM 2 is used for the first time, the following security warning dialog box may appear.



This program is provided with a digital signature for certification. Therefore, check the "Always trust content from this publisher" check box.

This dialog box is an example for the Internet Explorer. Other dialog box appears for other browser.

Note that some browsers do not have the "Always trust" option. In such cases, this dialog box appears every time when displaying the ROOM 2.



Names and functions of buttons and list boxes

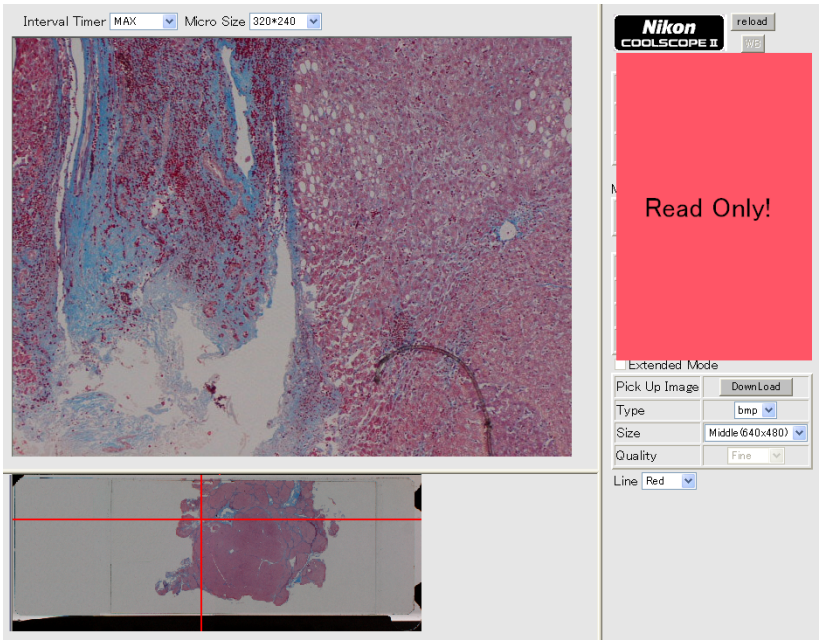
(1) [RELOAD] button	Update the micro image.
(2) [WB] button	Adjust the white balance.
(3) [MOVE] button	Move the observation position.
(4) [MAG.] button	Change the magnification.
(5) [AF] button	Bring the image into focus.
(6) [FOCUS] button	Adjust the image focus.
(7) [DIGITAL ZOOM] button	Electronic zoom.
(8) [APERTURE] button	Adjust the stop.
(9) [AE] button	Adjust the image brightness.
(10) [Extended Mode] check box	Allow enabling/disabling of the Extended Mode function.
(11) [DOWNLOAD] button	Retrieve the micro image from the COOLSCOPE.
(12) [TYPE] list box	Allow selection of an image file format (at the time of micro image retrieval).
(13) [SIZE] list box	Allow selection of an image size (at the time of micro image retrieval).

(14) [QUALITY] list box	Allow selection of a JPEG compression ratio (at the time of micro image retrieval).
(15) [Line] list box	Change the color of the cross line on the macro image.
(16) [INTERVAL TIMER] list box	Allow the selection of intervals for updating the micro image.
(17) [Micro Size] list box	Select the size of the micro image.

The ROOM 1 can refresh images faster than the ROOM 2 when the Windows 2000 (SP4) or Windows XP (SP2) OS is used. Therefore, if you can use either screen, use the ROOM 1 screen. Use the ROOM 2 only when you cannot use the ROOM 1.

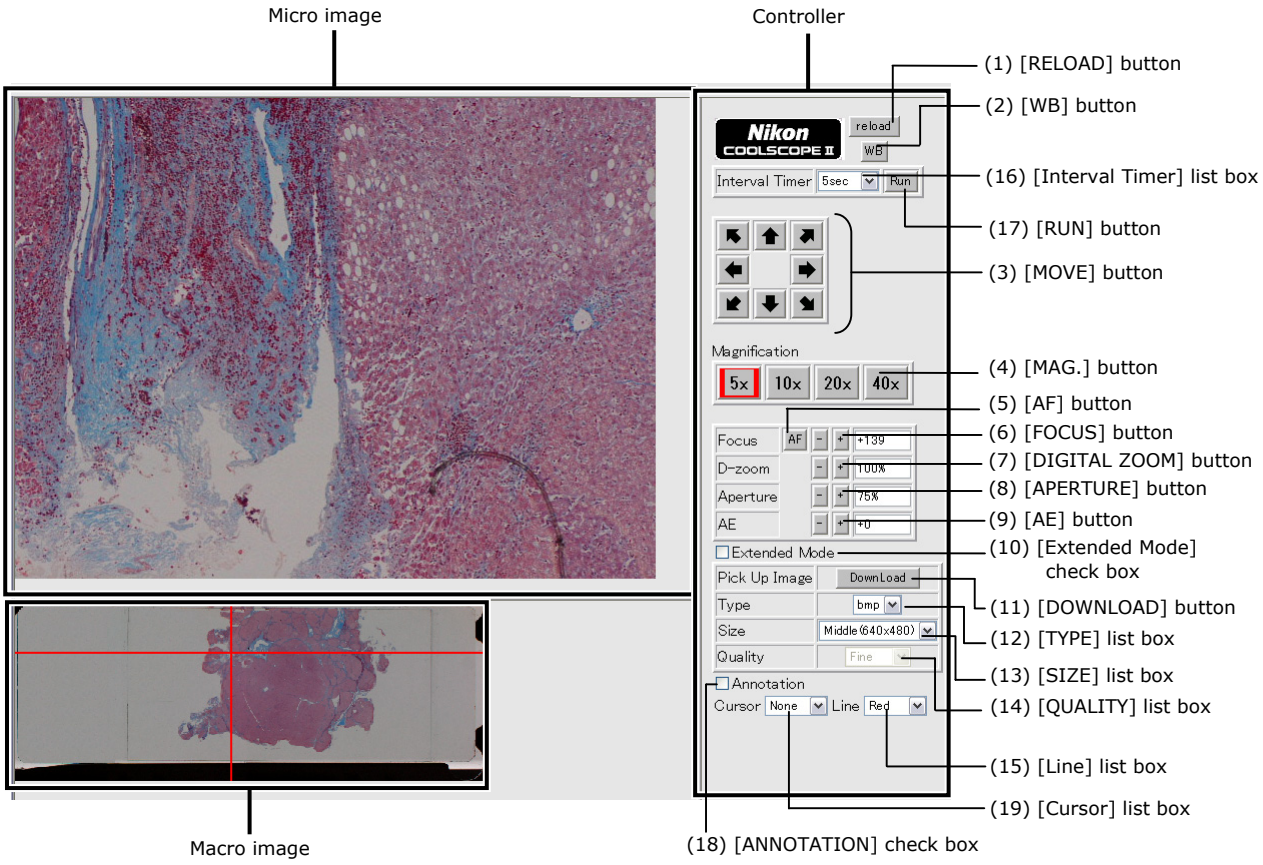
When multiple PCs access one COOLSCOPE simultaneously and display the ROOM 1 or 2 screen, a same image will appear on all PCs. The refresh time intervals for all PCs are the same too. The last settings are used for all browsers on all PCs.

NOTE:	If the Web screen displays the following image, the COOLSCOPE network setting is set to "Read Only." (Refer to "3.2 NetWork Settings submenu" in Chapter VII.)



ROOM 3

The ROOM 3 screen features the following functions: Observing images can be displayed at a predetermined time interval and captured to the COOLSCOPE. And the COOLSCOPE body can be controlled.



Names and functions of buttons and list boxes

(1) [RELOAD] button	Update the micro image.
(2) [WB] button	Adjust the white balance.
(3) [MOVE] button	Move the observation position.
(4) [MAG.] button	Change the magnification.
(5) [AF] button	Bring the image into focus.
(6) [FOCUS] button	Adjust the image focus.
(7) [DIGITAL ZOOM] button	Electronic zoom.
(8) [APERTURE] button	Adjust the stop.
(9) [AE] button	Adjust the image brightness.
(10) [Extended Mode] check box	Allow enabling/disabling of the Extended Mode function.
(11) [DOWNLOAD] button	Retrieve the micro image from the COOLSCOPE.

(12) [TYPE] list box	Allow selection of an image file format (at the time of micro image retrieval).
(13) [SIZE] list box	Allow selection of an image size (at the time of micro image retrieval).
(14) [QUALITY] list box	Allow selection of a JPEG compression ratio (at the time of micro image retrieval).
(15) [Line] list box	Change the color of the cross line on the macro image.
(16) [INTERVAL TIMER] list box	Allow the selection of intervals for updating the micro image.
(17) [Micro Size] list box	Select the size of the micro image.
(18) [ANNOTATION] check box	Allow enabling/disabling of the Annotation function.
(19) [Cursor] list box	Display the Annotation cursor.

3.3.4 Working with the WEB screen

(1) Updating the micro image and statuses. (ROOM 1, ROOM 2, ROOM 3)

1) Click on the [RELOAD] button.

(2) Adjusting the white balance (ROOM 1, ROOM 2, ROOM 3)

The white balance is adjustable.

1) Click on an area of the macro image that does not show the specimen.
If the screen image is too dark or too white, adjust with the [AE] button.

2) Press the [WB] button to perform white balance adjustment.

NOTE:	Changing the white balance automatically resets the camera gain to Y100, R100, and B100.

(3) Changing the observation position

The observation position can be changed in any of the following three ways:

Clicking on the macro image (ROOM 1, ROOM 2, ROOM 3)

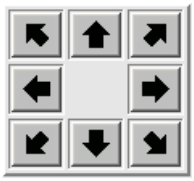
1) Click on the macro image.
The micro image appears at the clicked position.

Clicking on the micro image (Only for ROOM 3. This function does not work on the ROOM 1 and 2.)

1) Click on the micro image.
The micro image appears at the clicked position.

Clicking on [MOVE] button (ROOM 1, ROOM 2, ROOM 3)

1) Click on the [MOVE] button.
The observation position moves by half the micro-image screen per click.



NOTE:	・ The observation position cannot be continually moved from the PC by pressing and holding the mouse button. In addition, the observation position cannot be coarsely adjusted by right-clicking on [MOVE] button. Note that the micro image on the ROOM 3 is updated when the observation position is changed with the PC. ・ This function is disabled if the COOLSCOPE network setting is set to "Read Only."

Caution!

Position information – information on the position clicked on the macro or micro image on the PC – is calculated, with the upper left corner of the image on screen as the origin, and is transmitted to the COOLSCOPE. As a result, if the observation position is changed on your PC by clicking on the image with the upper left corner of the macro or micro image not shown on screen, the clicked position will differ from the updated image center.

For instance, if you click on • on your PC when the macro image is displayed on your PC as shown below, a double-boxed area will appear with x at its center. (Remember that in this case, the area enclosed by a dotted line does not appear with the clicked • position at its center.)

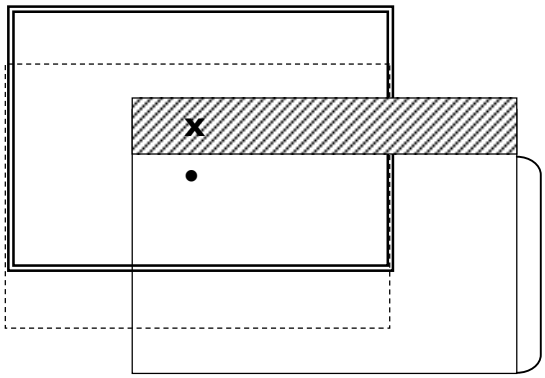
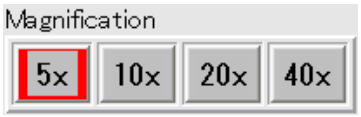


Image displayed on the PC (The shaded area of the COOLSCOPE macro image is hidden.)

(4) Changing magnifications (ROOM 1, ROOM 2, ROOM 3)

1) Click on the [MAG.] button.
Changing magnifications automatically adjusts the lighting brightness and aperture.



NOTE:

- Changing magnifications from the PC automatically updates the micro image.
- This function is disabled if the COOLSCOPE network setting is set to "Read Only."

(5) Bringing the image into focus (ROOM 1, ROOM 2, ROOM 3)

The image is brought into focus with 5x selected as the magnification.

1) Click on the [AF] button. The image is automatically brought into focus.

NOTE:
- When the [AF] button is used for the first time following specimen-slide replacement, always select 5 x as the magnification. Note also that the [AF] button must be used with the specimen positioned at the center of the field of view.
- If it is difficult to bring the image into focus, display a high-contrast area of the image at the center of the field of view and then click on the [AF] button again.
- Executing auto-focus from the PC automatically updates the micro image.
- This function is disabled if the COOLSCOPE network setting is set to "Read Only."

(6) Adjusting the image focus (ROOM 1, ROOM 2, ROOM 3)

1) Click on the [FOCUS] button.

NOTE:
- Adjusting the image focus from the PC automatically updates the micro image.
- This function is disabled if the COOLSCOPE network setting is set to "Read Only."

(7) Using electronic zoom (ROOM 1, ROOM 2, ROOM 3)

Electronic zoom can be used. Five options – 100%, 140%, 200%, 280%, 400%, and 800% – are available to choose from as the zoom factor.

1) Click on the [DIGITAL ZOOM] button.

NOTE: The selected zoom factor is not reflected in the COOLSCOPE's micro image.

(8) Adjusting the aperture (ROOM 1, ROOM 2, ROOM 3)

The aperture can be adjusted. Four options – 25%, 50%, 75%, and 100% – are available to choose from for the aperture (standard: 75%).

1) Click on the [APERTURE] button.

NOTE:
- Adjusting the aperture from the PC automatically updates the micro image.
- This function is disabled if the COOLSCOPE network setting is set to "Read Only."

(9) Adjusting the image brightness (ROOM 1, ROOM 2, ROOM 3)

A desired image brightness level can be selected. Thirteen (13) options – -2.0, -1.6, -1.3, -1.0, -0.6, -0.3, 0, 0.3, 0.6, 1.0, 1.3, 1.6, and 2.0 – are available to choose from for the image brightness level.

1) Click on the [AE] button.

NOTE:
- Adjusting the image brightness automatically updates the micro image.
- This function is disabled if the COOLSCOPE network setting is set to "Read Only."

(10) Enabling/disabling the Extended Mode function (ROOM 1, ROOM 2, ROOM 3)

If Extended Mode function is enabled, certain button functions on the WEB screen controller will change as described in the table below.

1) Click the [Extended Mode] check box to enable the Extended Mode function.

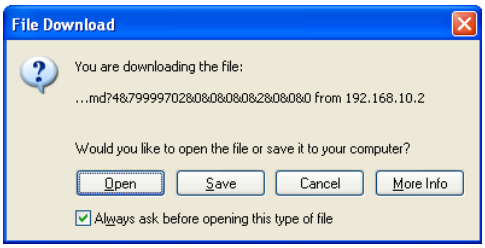
2) Uncheck the [Extended Mode] check box to disable the Extended Mode function.

	Function enabled	Function disabled
[MOVE] button	The observation position moves by one micro-image screen per click.	The observation position moves by half the micro-image screen per click.
[MAG.] button	AF executes after the magnification is changed. This is valid only when magnification is changed from low to high.	Magnifications are changed.
[FOCUS] button	Manual focus (coarse adjustment) (The amount of adjustment per click is about 10 times the amount of adjustment achieved by fine focus adjustments.)	Manual focus (fine adjustment)
[APERTURE] button	Allows aperture adjustment in 5% increments.	Allows aperture selection of 25%, 50%, 75% or 100%.
Macro image	AF executes after the observation position is moved. After AF is completed, a micro image is displayed.	A micro image of the clicked position is displayed.

(11) Retrieving the micro image from the COOLSCOPE (ROOM 1, ROOM 2, ROOM 3)

1) Click on the [DOWNLOAD] button.
The Download File dialog box is displayed.

2) Click on the [SAVE] button.


File Download
You are downloading the file:
...md?48799997028080808080828080&0 from 192.168.10.2
Would you like to open the file or save it to your computer?
Open
Save
Cancel
More Info
Always ask before opening this type of file

NOTE:	Clicking on OPEN in the Download File dialog box starts up the application software associated with the image file extension. If the image is saved using the application software, the program will also compress the file, resulting in an image quality that differs from the JPEG quality selected using the WEB controller. For Mac OS X, the following operations are performed when the user clicks the [DOWNLOAD] button. ・ Downloading of JPG file The image-editing application software starts automatically and displays an image. ・ Downloading of BMP file Although the file without extension may be downloaded, the image data is normal. Add the extension "bmp" to the filename, and check the image using the image-editing application software.

(12) Select an image file format (ROOM 1, ROOM 2, ROOM 3)

A desired image file format can be selected for retrieving the micro image from the COOLSCOPE. Two options – bmp (bitmap), jpg (JPEG), and tiff (TIFF) – are available to choose from for the image file format.

1) Click on the [TYPE] list box and select a desired image file format.

NOTE:	The selected image file format does not affect the COOLSCOPE's image-file-format setting.

(13) Selecting an image size (ROOM 1, ROOM 2, ROOM 3)

A desired image size can be selected for retrieving the micro image from the COOLSCOPE.

Two options – 1280*960 and 640*480 – are available to choose from for the image size.

1) Click on the [SIZE] list box and select a desired image size.

NOTE:	The selected image size does not affect the COOLSCOPE's image size setting.

(14) Selecting a JPEG image quality (ROOM 1, ROOM 2, ROOM 3)

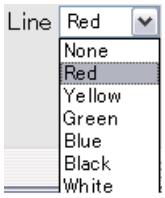
A desired image quality can be selected when JPEG is selected as the image file format for retrieving the micro image from the COOLSCOPE.

Three options – FINE, NORMAL, BASIC – are available to choose from for the image quality.

1) Click on the [QUALITY] list box and select a desired image quality.

(15) Changing the color of the cross line on the macro image (ROOM 1, ROOM 2, ROOM 3)

The color of the cross line can be changed. The display color can be selected from "None", "Red", "Yellow", "Green", "Blue", "Black", or "White".



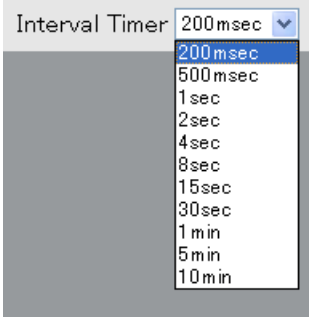
1) Click the [Line] list box to select one from the color table.

2) Select "None" to clear the cross line.

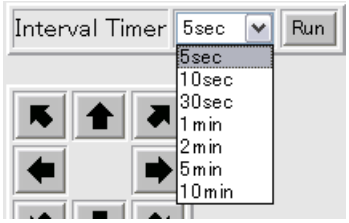
(16) Selecting intervals for updating the micro image (ROOM 1, ROOM 2, ROOM 3)

The refresh time interval can be set here. Select an option from the list. The micro image is updated at the selected time intervals. Note that the times of this list are guidelines and may slightly differ from the values.

1) Click on the [INTERVAL TIMER] list box and select the desired intervals from the list.



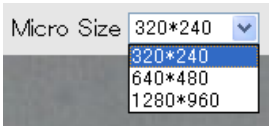
(ROOM 1, ROOM 2)



(ROOM 3)

(17) Selecting the resolution for the micro image (ROOM 1, ROOM 2)

Select the resolution of the image.
The greater the resolution is, the slower the image is displayed. ("1280 * 960" is the slowest.) Select one for your convenience.



320 * 240	Low resolution (1/16 pixel skipping)
640 * 480	Medium resolution (1/4 pixel skipping)
1280* 960	High resolution (no pixel skipping)

(18) Starting/pausing updating of the micro image (ROOM 3)

1) Click on the [RUN] button to start micro image updating.

2) Click on the [RUN] button again to pause updating.

NOTE:	The [RUN] button becomes a [Pause] button when updating of the micro image starts.

(19) Enabling/disabling the ANNOTATION function (ROOM 3)

When the ANNOTATION function is enabled, the position clicked on the micro image on the PC using the "X" mark can be indicated on the COOLSCOPE's micro image.

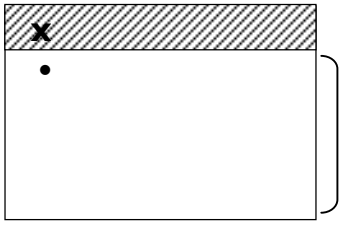
1) Check the [ANNOTATION] check box to enable the ANNOTATION function.

2) Uncheck the check box to disable the ANNOTATION function.

Caution!

Position information – information on the position clicked on the macro or micro image on the PC – is calculated with the upper left corner of the image on screen as the origin, and is transmitted to the COOLSCOPE. As a result, the observation position is changed on your PC by clicking on the image with the upper left corner of the macro or micro image not shown on the screen, the clicked position will differ from that of the updated mouse pointer.

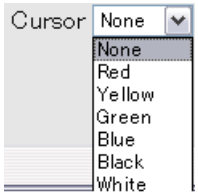
For instance, if you click on • on your PC when the macro image is displayed as shown below, the mouse pointer will appear at the x position. (Remember that in this case the mouse pointer does not appear at the clicked • position.)



(20) Enabling the display function of the ANNOTATION Cursor (ROOM 3)

When enabling the display function of the cursor, the location of the mouse pointer of the COOLSCOPE can be displayed with the cursor (arrow mark) on the micro image of the PC. The display color can be selected from "None", "Red", "Yellow", "Green", "Blue", "Black", or "White". The cursor display is updated at the same time of the update of the micro image.

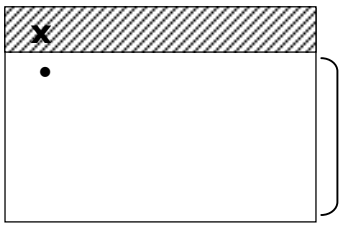
1) Click the [ANNOTATION] checkbox to enable the ANNOTATION function.
2) Click the [Cursor] list box to select one from the color table.
3) Select None to disable the display function of the cursor.



Caution!

Position information – information on the position clicked on the macro or micro image on the PC – is calculated with the upper left corner of the image on screen as the origin, and is transmitted to the COOLSCOPE. As a result, the observation position is changed on your PC by clicking on the image with the upper left corner of the macro or micro image not shown on the screen, the clicked position will differ from that of the updated mouse pointer.

For instance, if you click on • on your PC when the macro image is displayed as shown below, the mouse pointer will appear at the x position. (Remember that in this case the mouse pointer does not appear at the clicked • position.)



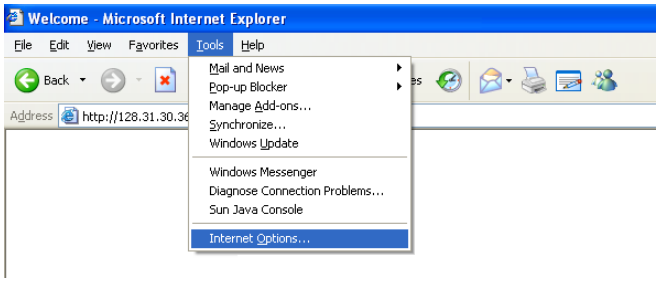
3.3.5 ActiveX Settings

The ActiveX controls must be enabled to use ROOM1.

The settings can be performed only when the Internet Explorer 6.02 (SP 2) is used on the Windows 2000 (SP 4) or the Windows XP (SP 2) operating system.

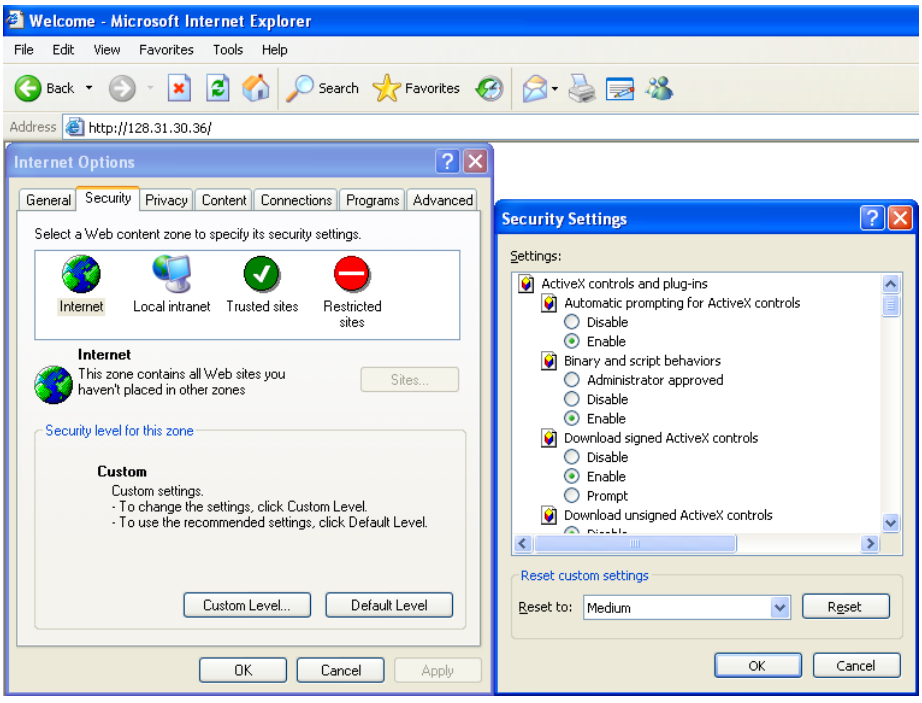
The setting procedure is as follows:

(1) In **Tools**, select **Internet Options**.

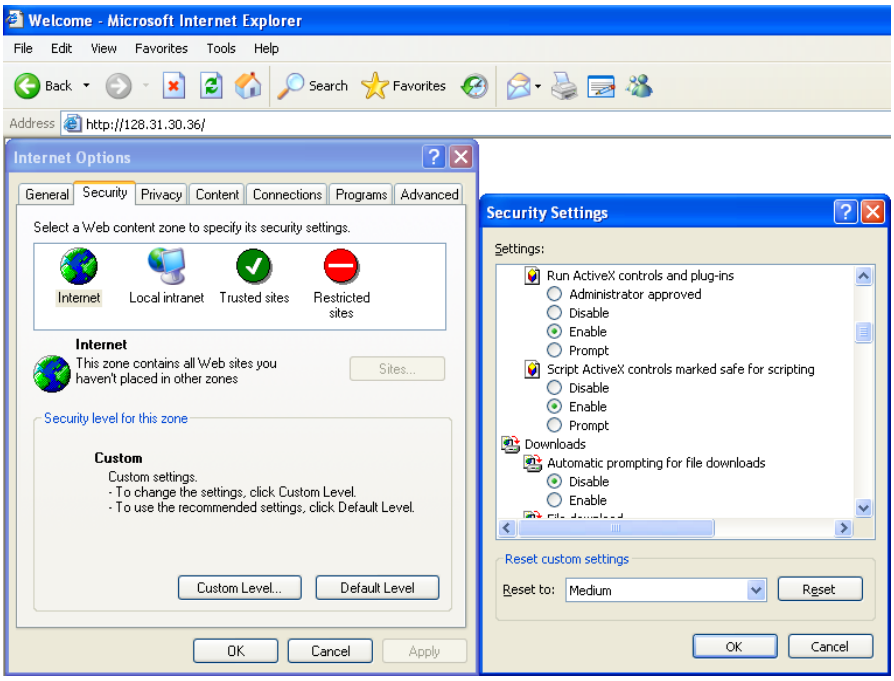


(2) Select **Security** > **Local intranet** > **Custom Level**.
Perform the settings of [ActiveX controls and plug-ins].

- Check the Enable option for "Automatic prompting for ActiveX controls."
- Check the Enable option for "Download signed ActiveX controls."



- Check the Enable option for "Run ActiveX controls and plug-ins."
- Check the Enable option for "Script ActiveX controls marked safe for scripting."



(3) Disable personal firewall blocking.

Some operating systems or antivirus software (such as Virus Buster) may activate a personal firewall. To prevent this, either disable the personal firewall or modify blocking to enable reception via UDP port 12102, which is used by this device. For instructions on changing the settings, refer to the documentation for your operating system or antivirus software.

*	If ROOM1 is not displayed, make sure any personal firewall of the operating system or antivirus software is not preventing it.

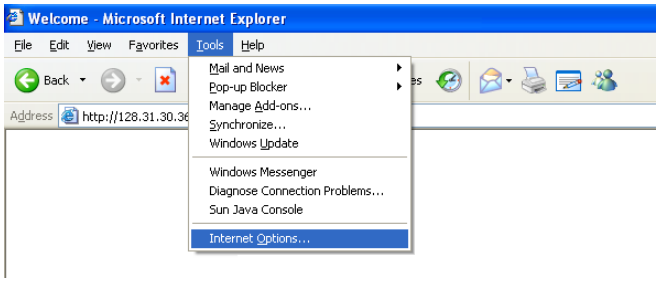
3.3.6 Java Applet Settings

Java applets must be enabled to use ROOM2.
This procedure varies depending on your browser and operating system.

For Windows and Internet Explorer

(1) Change the browser settings.

- In **Tools**, select **Internet Options**.



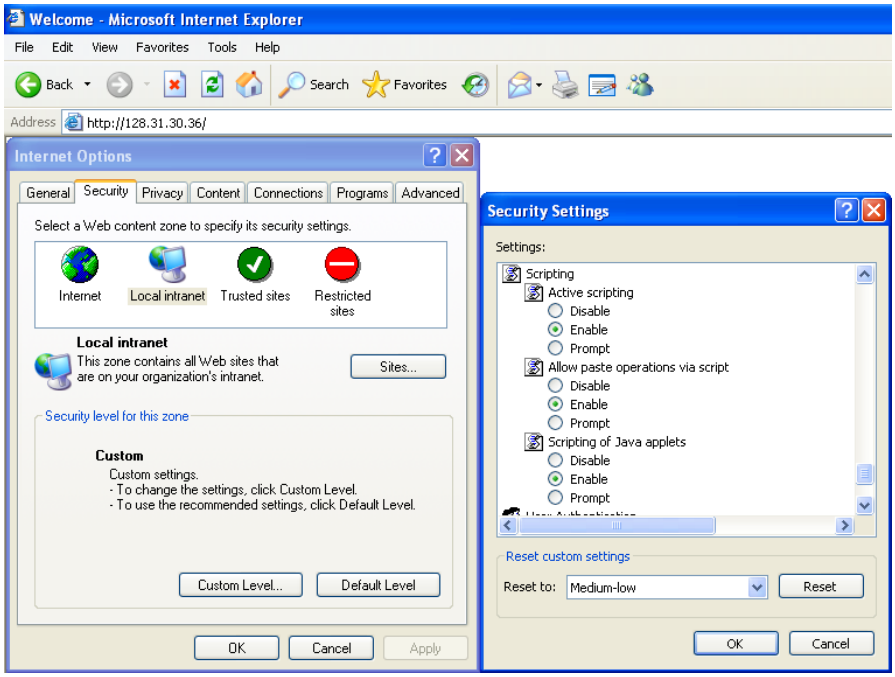
- Select **Security** > **Local intranet** > **Custom Level**.

  Complete the **Microsoft VM** setting.

  - Specify Java permsissions
    (select **High safety**, **Low safety**, or **Medium safety**)

  Complete the Scripting of Java applets setting.

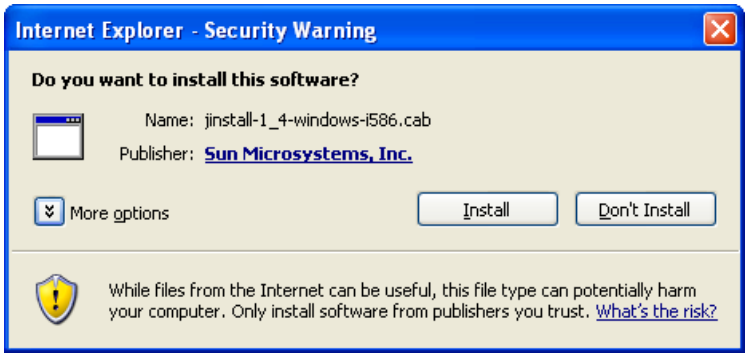
  - Enable scripting of Java applets



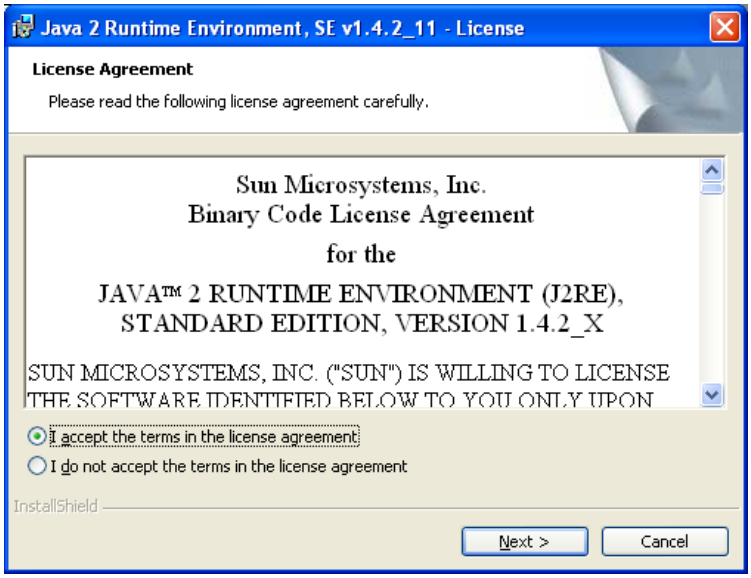
(2) Install the Java plug-in.

If a Java plug-in to run Java applets is not installed, you will be requested to install a Java plug-in the first time you access ROOM2.
Follow the instructions displayed to install it.

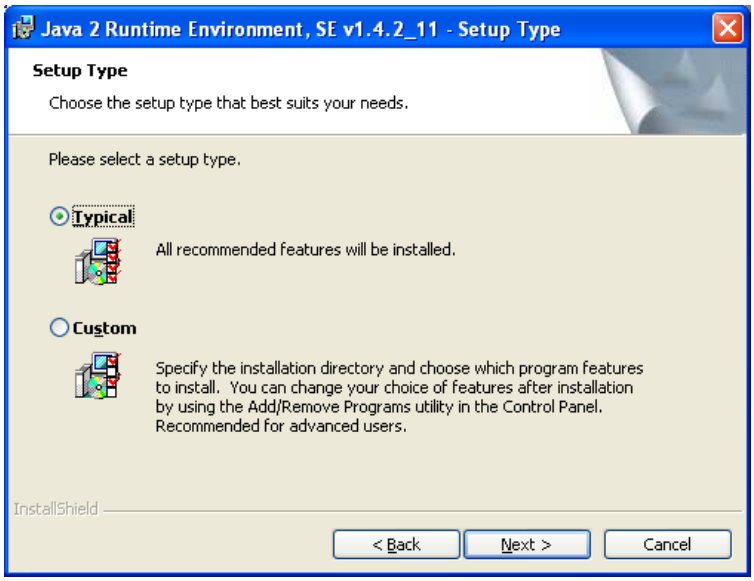
- Click **Install**.


Internet Explorer - Security Warning
Do you want to install this software?
Name: jinstall-1_4-windows-i586.cab
Publisher: Sun Microsystems, Inc.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

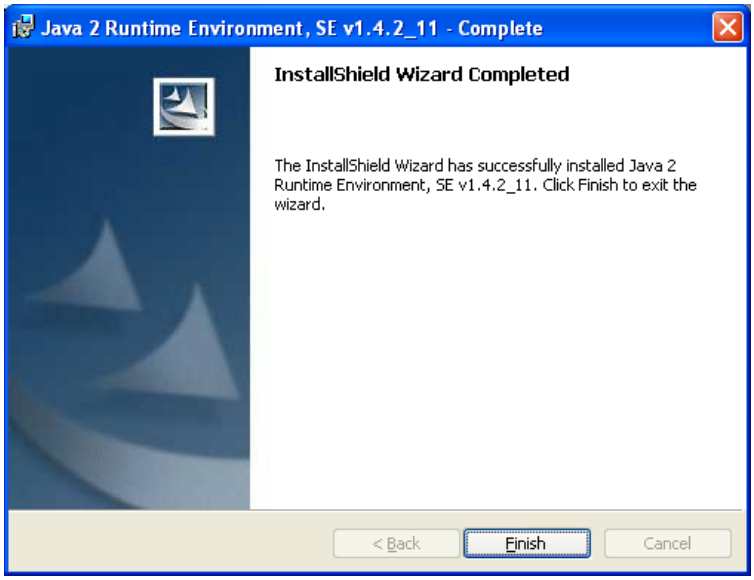
- Select **I accept the terms in the license agreement** and click **Next**.


Java 2 Runtime Environment, SE v1.4.2_11 - License
License Agreement
Please read the following license agreement carefully.
Sun Microsystems, Inc.
Binary Code License Agreement
for the
JAVA™ 2 RUNTIME ENVIRONMENT (J2RE),
STANDARD EDITION, VERSION 1.4.2_X
SUN MICROSYSTEMS, INC. ("SUN") IS WILLING TO LICENSE
THE SOFTWARE IDENTIFIED BELOW TO YOU ONLY UPON
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
Next >
Cancel

- Select **Typical** and click **Next**.


Java 2 Runtime Environment, SE v1.4.2_11 - Setup Type
Setup Type
Choose the setup type that best suits your needs.
Please select a setup type.
Typical
All recommended features will be installed.
Custom
Specify the installation directory and choose which program features
to install. You can change your choice of features after installation
by using the Add/Remove Programs utility in the Control Panel.
Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

- Click **Finish**.


Java 2 Runtime Environment, SE v1.4.2_11 - Complete
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Java 2 Runtime Environment, SE v1.4.2_11. Click Finish to exit the wizard.
< Back
Finish
Cancel

- If a message requests that you restart your computer, close any open programs and click **Yes** to restart.

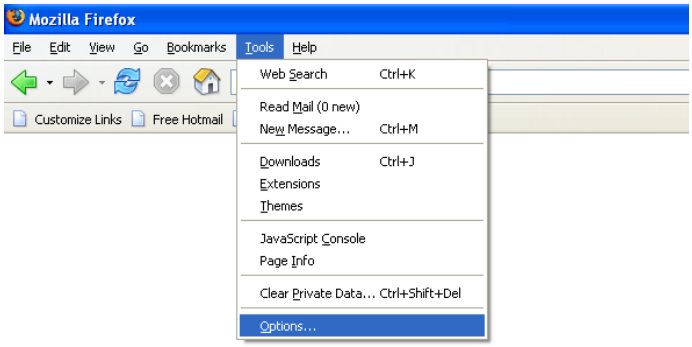
(3) Disable personal firewall blocking.

For details, refer to Section 3.3.5, "ActiveX Settings."

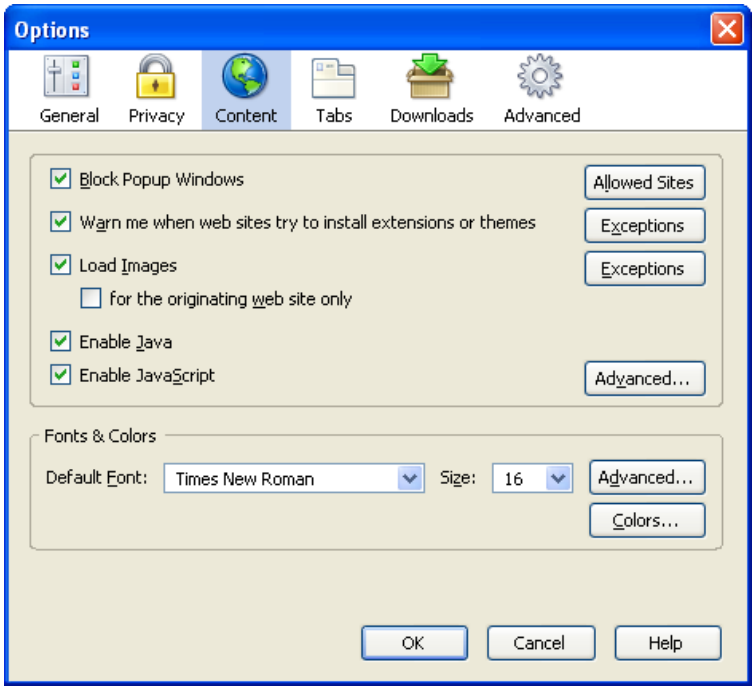
For Windows and Mozilla Firefox

(1) Change the browser settings.

- Select **Tools** > **Options**.



- On the Content tab, select **Enable Java**.
- Select **Enable JavaScript**.

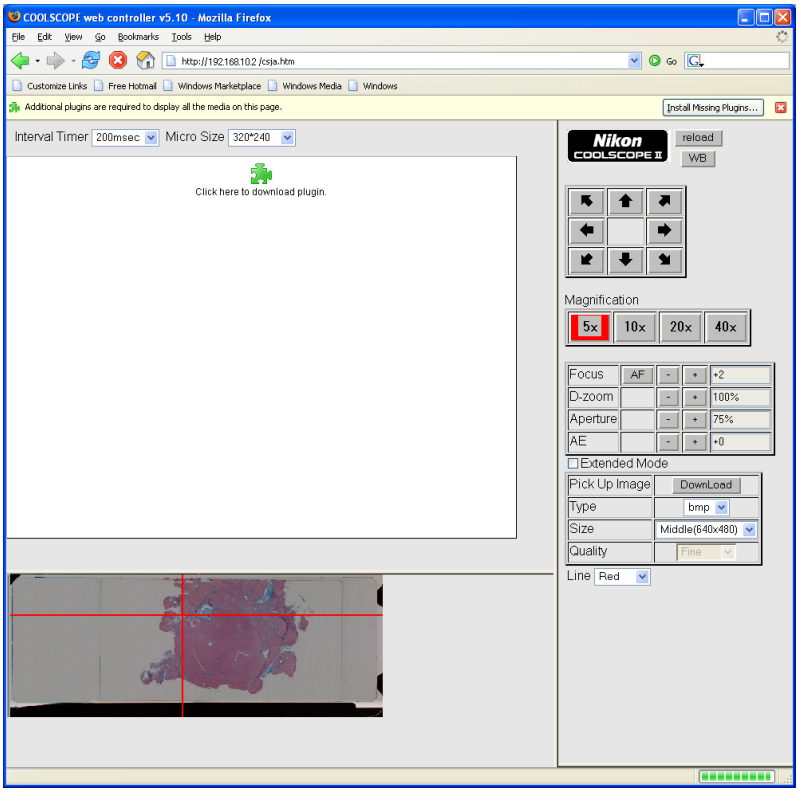


(2) Install the Java plug-in.

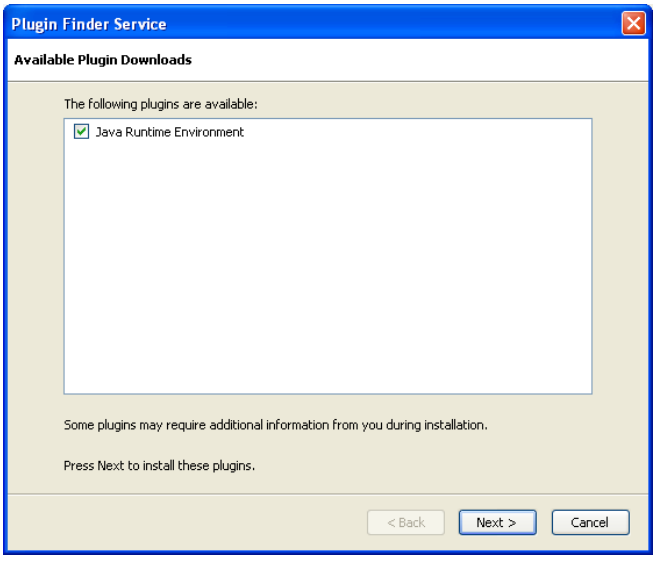
If a Java plug-in to run Java applets is not installed, you will be requested to install a Java plug-in the first time you access ROOM2.

Follow the displayed installation instructions.

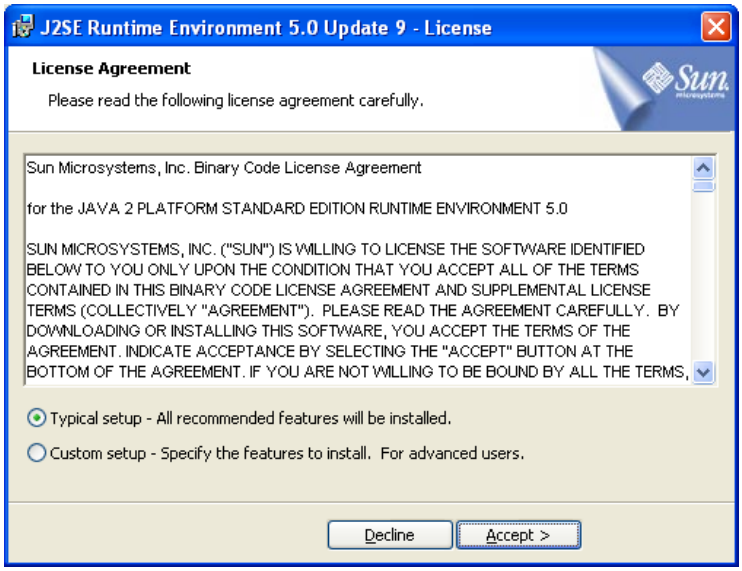
- Click the image display area.



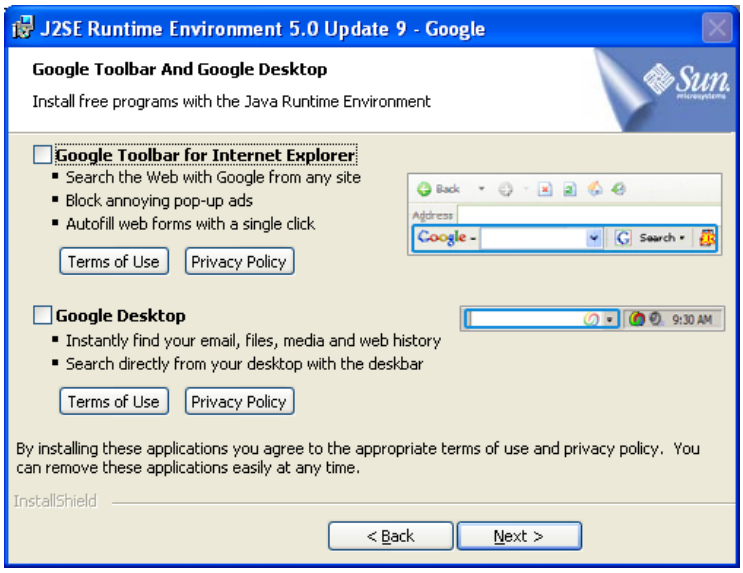
- Click **Next**.


Plugin Finder Service
Available Plugin Downloads
The following plugins are available:
Java Runtime Environment
Some plugins may require additional information from you during installation.
Press Next to install these plugins.
< Back
Next >
Cancel

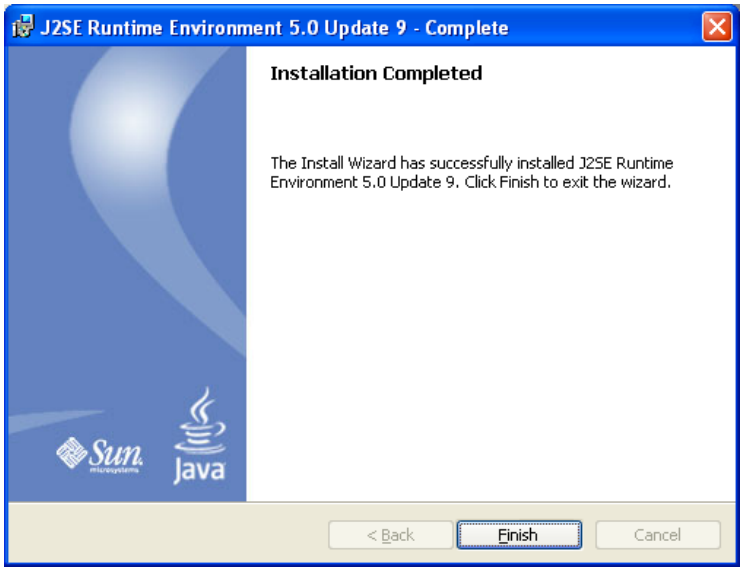
- The J2SE installation screen is displayed. Select **Typical setup** and click **Accept**.


J2SE Runtime Environment 5.0 Update 9 - License
License Agreement
Please read the following license agreement carefully.
Sun Microsystems, Inc. Binary Code License Agreement
for the JAVA 2 PLATFORM STANDARD EDITION RUNTIME ENVIRONMENT 5.0
SUN MICROSYSTEMS, INC. ("SUN") IS WILLING TO LICENSE THE SOFTWARE IDENTIFIED BELOW TO YOU ONLY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS BINARY CODE LICENSE AGREEMENT AND SUPPLEMENTAL LICENSE TERMS (COLLECTIVELY "AGREEMENT"). PLEASE READ THE AGREEMENT CAREFULLY. BY DOWNLOADING OR INSTALLING THIS SOFTWARE, YOU ACCEPT THE TERMS OF THE AGREEMENT. INDICATE ACCEPTANCE BY SELECTING THE "ACCEPT" BUTTON AT THE BOTTOM OF THE AGREEMENT. IF YOU ARE NOT WILLING TO BE BOUND BY ALL THE TERMS,
Typical setup - All recommended features will be installed.
Custom setup - Specify the features to install. For advanced users.
Decline
Accept >

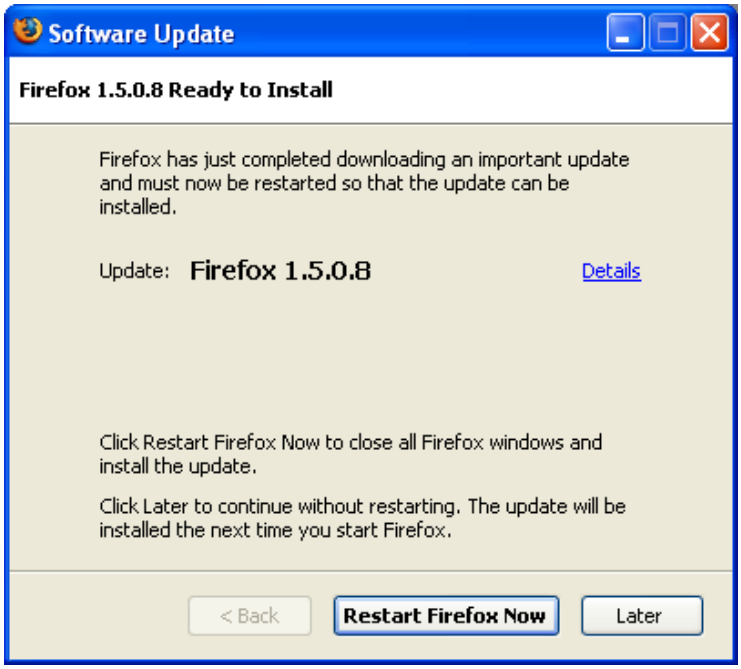
- Clear the check box for the program that will only install the Java plug-in, then click **Next**.


J2SE Runtime Environment 5.0 Update 9 - Google
Google Toolbar And Google Desktop
Install free programs with the Java Runtime Environment
Google Toolbar for Internet Explorer
Search the Web with Google from any site
Block annoying pop-up ads
Autofill web forms with a single click
Terms of Use
Privacy Policy
Google Desktop
Instantly find your email, files, media and web history
Search directly from your desktop with the deskbar
Terms of Use
Privacy Policy
By installing these applications you agree to the appropriate terms of use and privacy policy. You can remove these applications easily at any time.
InstallShield
< Back
Next >

- After a message is displayed indicating installation is complete, click **Finish**.


J2SE Runtime Environment 5.0 Update 9 - Complete
Installation Completed
The Install Wizard has successfully installed J2SE Runtime Environment 5.0 Update 9. Click Finish to exit the wizard.
Sun
Java
< Back
Finish
Cancel

- Click **Restart Firefox Now** and restart the browser.


Software Update
Firefox 1.5.0.8 Ready to Install
Firefox has just completed downloading an important update and must now be restarted so that the update can be installed.
Update: Firefox 1.5.0.8
Details
Click Restart Firefox Now to close all Firefox windows and install the update.
Click Later to continue without restarting. The update will be installed the next time you start Firefox.
< Back
Restart Firefox Now
Later

(3) Disable personal firewall blocking.

For details, refer to Section 3.3.5, "ActiveX Settings."

3.4 Using FTP Commands to Operate the COOLSCOPE

You can run FTP commands on your PC to get images from the COOLSCOPE.

NOTE:	Always be sure to consult your network administrator before executing FTP commands. Your institution's network may have been set up in a unique manner, so invalid operations might cause a problem on your network.

3.4.1 Using FTP Commands to Get COOLSCOPE Image Files from a PC

1) Enter the IP address of the COOLSCOPE from the MS-DOS prompt (command prompt) of Windows to connect to the COOLSCOPE.
(Example: FTP 192.168.10.2)

2) Execute the ls command to search for a directory named RAMIBOX.

3) Execute the cd RAMIBOX command.
The following file names will be displayed.

- IMG***.bmp
- IMG***.jpg
- IMG***.tif
- MACRO.bmp
- MACRO1.jpg
- MACRO2.jpg

The number of image size such as "2560" or "1280" is indicated in the space marked with "***".
Time stamps of these files are 0 hours 0 minutes. Acquired files will be given the time of the date when you issue the Get command.

4) Execute the Get command for one of the files, and the latest image that is in the COOLSCOPE at that point will be downloaded to the PC.

*	If the PC and the COOLSCOPE are connected using a USB cable and the access is frequent, the capture of the image file may result in failure. In that case, temporary halt the access via USB cable.

*	The macro image can be written in the MACRO.bmp. Also, the right half of the macro image can be written in the MACRO1.jpg and the left half can be written in the MACRO2.jpg.

Caution !	IMG2560.bmp, IMG2560.jpg, and IMG2560.tif may be used only in Multi screen mode (initial display mode) or Full screen mode. Images cannot be captured properly when Help is running or an image from the CF card is being displayed.

A detailed command list is available from Nikon. If you wish to have one, please contact your nearest Nikon representative.

3.5 Using Telnet Commands to Operate on the COOLSCOPE

You can use Telnet commands to operate the COOLSCOPE from your PC.

NOTE:	Always be sure to consult your network administrator before executing Telnet commands. Your institution's network may have been set up in a unique manner, so invalid operations could cause a problem on your network.

Enter the IP address of the COOLSCOPE from the MS-DOS prompt (command prompt) of Windows to connect to the COOLSCOPE.

(Example: Telnet 192.168.10.2)

A detailed command list is available from Nikon. If you wish to have one, please contact your nearest Nikon representative.

3.6 Saving Images to an FTP Server from the COOLSCOPE

In this instruction manual, explanations are given assuming that the IP address of the COOLSCOPE is 192.168.10.2, that of the server is 192.168.10.1, and that of the subnet mask is 255.255.0.0., while the gateway address is 192.168.128.1.

In practice, you should use the IP address assigned to you by your network administrator.

It is assumed that network settings on the PC side (LAN connection) have been completed before this function can be used. Please consult your network administrator.

3.6.1 Setting the FTP Server Functions of the PC

For image files to be transferred from the COOLSCOPE, you need a PC which has FTP server functions.

Only basic settings are described here. Refer to your OS's help function and other materials for more detailed information on settings.

3.6.1(1) When Using Windows 2000 Professional or XP Professional

The following explains how to set FTP functions in Windows 2000 Professional or XP Professional. The Control Panel is displayed in a different way on the two operating systems.

- In Windows 2000, you select [Start] - [Settings] - [Control Panel].
- In Windows XP, you select [Start] - [Control Panel].

Other than that, almost all setting operations are common to both.

Setup procedure

(1) Install Internet Information Service (IIS)

Add FTP server functions.

(2) Add a user (User ID and Password input)

Set the COOLSCOPE as the login user.

(3) Specify the home directory

Specify the home directory when logged in.

(4) Enable writing to the server

Enable writing of image files to the FTP server.

Adding components

If Internet Information Service (IIS) does not have components added, you need to install them.

1) Open [Control Panel] and select [Add/Remove Programs] - [Add/Remove Windows Components].
2) Select Internet Information Service (IIS) and click the [Advanced] button.
3) Examine whether the [FTP (File Transfer Protocol) Services] check box is selected. If not, select it and click [OK]. After that, follow the installation instructions.
You will be requested for a Windows 2000 or XP CD-ROM during this course.
If you are using a preinstalled version, it should normally be copied to a location below the System directory on drive C. Thus, you only need to specify the directory that contains the required files in order to have them installed. If the files cannot be found, other folders will be searched.

Settings

All of the following items can be set from [Control Panel] – [Administrative Tools]–[Computer Management].

Adding a user

Create a new user account.

1) Select [Computer Management (Local)] – [System Tools] – [Local Users and Groups].
2) Right-click on [User] to select [New User].
3) Enter a user ID and a password. To ensure that the same information has been set for External Server in Network Settings of the COOLSCOPE, enter the user ID and the password within ten alphanumeric characters in lower- or uppercase. Deselect [User must change password at next login] check box.

NOTE:	You also can create accounts and set passwords from [Control Panel] – [Users and Passwords] (or [User Accounts] for XP).

Specifying the home directory and enabling write to it

Enable image files to be written from the COOLSCOPE to the PC by FTP.

1) Select [Computer Management (Local)] – [Services and Applications] – [Internet Information] – [FTP Sites].
2) Right-click [Preset FTP Sites] and select the [Home Directory] tab in the ensuing [Properties] dialog box.

3) In [Local Path] for [Directory at FTP Site], specify the home directory (or default home directory) to which image files are to be transferred. Also select the [Write] check box to enable writing to the home directory.
When image files are transferred, the FOLDER. specified on the COOLSCOPE side is created at a location below this home directory, and the image files are saved in that directory.

Example: If the home directory is "C:\CSFTP" and the FOLDER. specified on the COOLSCOPE side is "F," then the FTP transfer directory is "C:\CSFTP\F***\."

NOTE:
- The contents described above can also be set form [Control Panel] – [Administrative Tools] – [Internet Information Services].
- Please refer to "2. Specifying the Image Storage Format, Storage Medium, File Name, and Label Illumination" in Chapter V for information on how to select a folder.

Other settings

When enabling logon as an "anonymous" user

In order to discriminate the user by which image files are written to the FTP server, we in the above settings adopted a method to log in with a user ID and a password. However, it is possible to log in as an "anonymous" user.

1) When setting External Server in Network Settings of the COOLSCOPE, select "anonymous" for the User ID and "none" for the Password.

2) Enable the FTP server PC for anonymous access.
As in home directory settings, select the [Allow Anonymous Logon] check box on the [Security Account] tab in the [Preset FTP Sites] properties window. Be aware that if you select the [Allow Only Anonymous Logon] check box, no one but an anonymous user can log on.

When specifying a directory in which to save image files separately for each of multiple COOLSCOPEs connected

1) Select [Computer Management (Local)] – [System Tools] – [Local Users and Groups] – [Users].

2) Double-click the user you want to set, and specify a local path for the home folder on the [Profile] tab. (The specified path should be below the home directory, however.)

Example: If the home directory is "C:\CSFTP," the user home folder local path of the COOLSCOPE is "C:\CSFTP\CS1," and the FOLDER. on the COOLSCOPE side is "F," then the FTP transfer directory is "C:\CSFTP\CS1\F***\."

3) Set local paths for the second and the third users (COOLSCOPEs) as "C:\CSFTP\CS2" and "C:\CSFTP\CS3." That way, you can specify a separate directory for each user.

3.6.1(2) When Using Mac OS X

Setup procedure

(1) FTP server settings
Add the FTP server functions.

(2) Add a user (User ID and Password input)
Set the COOLSCOPE as a login user.

Use the user ID of the system manager to log on and perform those settings.

Settings

FTP server settings

1) Select [Apple Logo] - [System Environment Settings].
2) Click [Sharing] in the internet and network of the system environment setting window.
3) Check the checkbox of [Start FTP Service] (for Mac OS 10.1) or [FTP Service] (for Mac OS 10.2).

Adding a user

1) Click [User] (for MacOS 10.1) or [Account] (for MacOS 10.2) in the system environment settings window.
2) Click [New user] in the [User] window (for MacOS 10.1) or the [Account] window (for MacOS 10.2) and set the User ID and Password established in the External Server of the COOLSCOPE.
3) Close the window.
4) Select [Apple Logo] - [System Environment Settings] - [Network] - [Settings] - [Built-in Ethernet] to check the server IP address.

On home directory settings and the separation of save directories for each of multiple users (COOLSCOPEs)

When a user is added, a home directory is automatically created under the specified user name and directory name at a location below [Macintosh HD] – [Users].

When image files are transferred, the FTP Dir. specified on the COOLSCOPE side is created at a position below this home directory, and the image files are saved in that directory.

Example: If the user name is "CS" and the FOLDER. specified on the COOLSCOPE side is "F," then the FTP transfer directory is "C:\Users\CS\F***\."

When accounts are added, separate directories are created for each user, so that even if there are multiple users (COOLSCOPEs) connected to the network, image files are saved in each separate directory.

The access right for the created folder is set that only user can read and write and other users can only read.

To prevent unforwarding of the image or clearing of the image by other user, do not change the access right setting for the created folder.

Other settings

Network settings and confirmation

Network settings and confirmation can also be accomplished by selecting [Macintosh HD] – [Applications] – [Utilities] – [Network Utility].

- The [Info] tab: Shows the IP address and other information
- The [Ping] tab: Sends a ping command

To use a function that is equivalent to the command prompt in Windows, select [Macintosh HD] – [Applications] – [Utilities] – [Terminal] to display the [Terminal] screen.

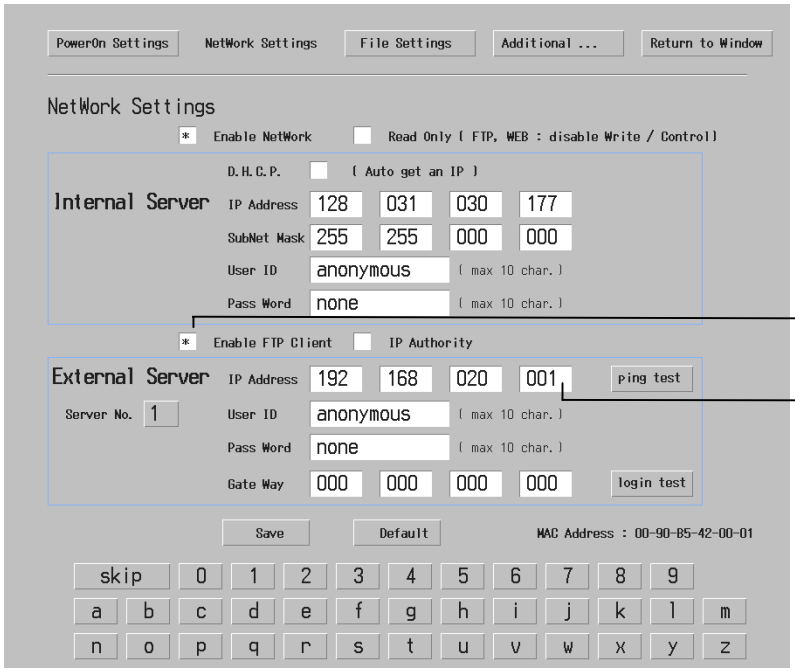
3.6.2 Setting External Servers of the COOLSCOPE—Network Settings

Consult your network administrator for details on the FTP server.

If you are going to connect the COOLSCOPE to a LAN, you need to enable it for network operation and set its own address.

Setting the FTP client function

To set the FTP client function of the COOLSCOPE, select "Network Settings" from the SETUP menu to call up the Network Settings screen shown below.


PowerOn Settings
NetWork Settings
File Settings
Additional ...
Return to Window
NetWork Settings
Enable NetWork
Read Only (FTP, WEB : disable Write / Control)
D.H.C.P.
(Auto get an IP)
Internal Server
IP Address 128 031 030 177
SubNet Mask 255 255 000 000
User ID anonymous (max 10 char.)
Pass Word none (max 10 char.)
Enable FTP Client
IP Authority
External Server
IP Address 192 168 020 001
ping test
Server No. 1
User ID anonymous (max 10 char.)
Pass Word none (max 10 char.)
Gate Way 000 000 000 000
login test
Save
Default
MAC Address : 00-90-B5-42-00-01
skip 0 1 2 3 4 5 6 7 8 9
a b c d e f g h i j k l m
n o p q r s t u v w x y z

Enables/disables FTP client function.

Sets the IP address of the server.

Enable FTP Client

For image files to be sent to the FTP server, always select this check box to enable the FTP client function.

External Server

Set the IP address and the gateway address of the server.

Server No.	Five servers can be stored in memory. Assign each server a number.
IP Address	192 168 020 001 ←Input example
User ID	Enter a user ID that is needed to log in to the server.
Pass Word	Enter a password that is needed to log in to the server, as necessary.
Gate Way	000 000 000 000 ←Input example

If any entry in the IP address consists of two digits or one digit, add "0" or "00" at the beginning of it to make each entry consist of three digits as you enter.

Click the input box and enter an address value. If you missed entering any address value, hold down [skip] button on the screen keyboard while you skip to the last entry of the address, then enter the correct value again.

When you finished setting all, press [SAVE] button to save what you've set.

The server with the number you last saved is selected when the COOLSCOPE starts up.

Connection test

Ping test

To test the connection state of the external server, press a [ping test] button on the Network Settings screen to execute a ping test. This function is used to inspect whether the specified server exists in the LAN. This connection test is performed on the server that is shown in the "IP Address" column of External Server. However, it is necessary as a premise that the IP Address has been saved by pressing [SAVE] button. When a response is received from the server, a message "OK Complete!" is displayed.

Ping may not always be responded to for reasons of security functions such as packet filter, firewall or security gateway. Ping test may be reexecuted after disabling the security function of the server. In that case, restart the COOLSCOPE first. Also, even when Ping was not responded to, there is no problem with the server connection only if the server can be logged-in in the login test described below.

Login test

To test logging in to the server, press a [login test] button on the Network Settings screen to execute a login test. A login test is performed on the server that is shown in the IP Address column of External Server by using its set User ID and Password. However, it is necessary as a premise that the User ID and Password have been saved by pressing [SAVE] button. If the server cannot be logged in, check settings on the PC side and those of the COOLSCOPE.

3.7 Using the COOLSCOPE when Connected to a PC with a USB Cable

3.7.1 Recommended Operating Environment

When the COOLSCOPE is connected to your PC with a USB cable, you can read or write to the recording media inserted in the COOLSCOPE or capture the live image being shot by the CCD camera onto the PC.

Supported PCs

The COOLSCOPE can only be used with a Windows PC with a USB interface.

Supported OSs

- Windows 2000, Service Pack 3 (SP3) or higher
- Windows XP

If you are using Windows 2000, be sure to update its version to SP3 or higher. Otherwise, data may not be read or written to correctly.

About the recording media used by the COOLSCOPE

- Usable media

  Compact flash card (Type I and II), microdrive

- Media formatting

  When formatting media in your PC, make sure it is formatted in FAT12, 16 (Sometimes these are expressed simply as FAT.), or in FAT32.

  Note that depending on the OS used, you may not be able to select a format.

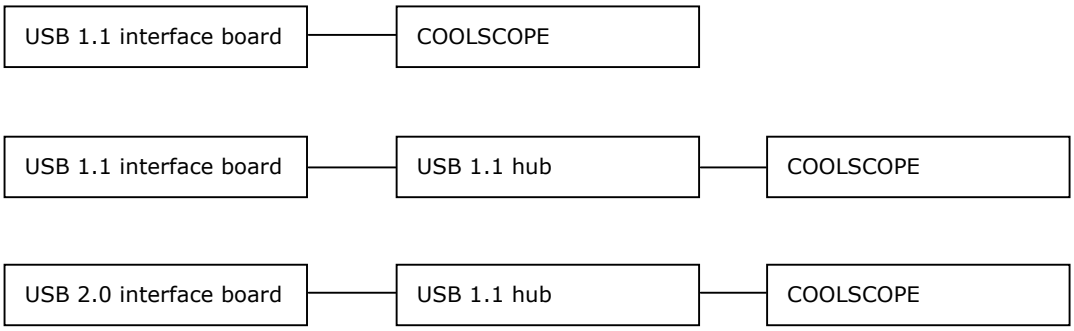
  The COOLSCOPE has a function for formatting media. The media preformatted in NTFS and so forth, that is, formats not supported by the COOLSCOPE, are formatted in FAT16.

*	Media formatted in other than NTFS may not be correctly formatted in FAT16 depending on the formats used. If so, reformat media in FAT12, FAT16, or FAT32 on your computer before use.
*	Format large media (over 2 GB) on your computer before use.
*	You cannot access the USB memory from the PC in a state where the USB memory is connected to the USB host port of the COOLSCOPE. When you wish to read/write from/to the USB memory, connect the USB memory directly to the USB port of the PC.

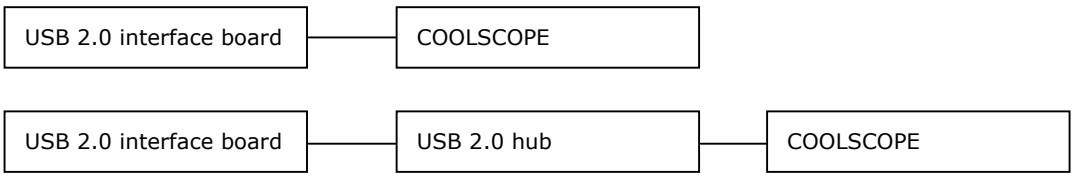
USB interface boards and hubs

The COOLSCOPE supports USB 2.0.

If the COOLSCOPE and the USB interface board are connected in one of the following ways, data is transferred at a rate of 12 Mbps compliant with the USB 1.1 standard.



If the COOLSCOPE and the USB interface board are connected in one of the following ways, data is transferred at a rate of 480 Mbps compliant with the USB 2.0 standard.



Make sure that the USB 1.1 interface board and USB 1.1 hub used in the system are compliant with the USB 1.1 standard, and that the USB 2.0 interface board and USB 2.0 hub used in the system are compliant with the USB 2.0 standard.

To avoid unexpected problems, we recommend that the interface board and the COOLSCOPE be connected in only one hub stage, and not in cascaded hub stages.

*	When multiple units of COOLSCOPE are connected to a Windows 2000 machine equipped with a USB 1.1 interface board, or a USB 1.1 hub, the COOLSCOPE units do not operate normally. If connecting multiple units of COOLSCOPE is desired, use a USB 2.0 interface board and a USB 2.0 hub, or use Windows XP for the OS.

USB cables

The COOLSCOPE does not come with a USB cable. Be sure to purchase an appropriate cable that suits the USB standard of the PC or hub that will be used.

- USB 1.1 or USB 2.0-compliant cable when the PC or hub is USB 1.1
- USB 2.0-compliant cable when the PC or hub is USB 2.0

The COOLSCOPE may not operate reliably if you use cables other than those specified.

USB host drivers

Use the USB host drivers made by Microsoft Corporation, as the drivers included with your interface board may not operate properly.

- When using the USB 1.1 interface board:
  The driver is included with the OS
- When using the USB 2.0 interface board:
  The driver is included with the OS providing it is Windows XP Service Pack 1 (SP1) or newer.
  If you are using Windows 2000 or Windows XP prior to SP1, download the USB 2.0 driver from the Microsoft Windows Update Web site. Visit the Microsoft website for details on how to download drivers.
  To install the USB 2.0 host driver that you have downloaded, read the manual supplied with your interface board or consult the manufacturer.

3.7.2 Connecting the COOLSCOPE and a PC

Follow the procedure described below to connect the COOLSCOPE and a PC.

1) Turn on the power to the PC main unit and start Windows 2000 or Windows XP.
2) Plug the A connector of the USB cable into the USB port of the PC main unit or the hub.
3) Plug the B connector of the USB cable into the USB device connector of the COOLSCOPE.

If this is the first time you are using the COOLSCOPE in Windows, the PC automatically recognizes the COOLSCOPE and installs the device driver. Refer to the subsequent pages for details.

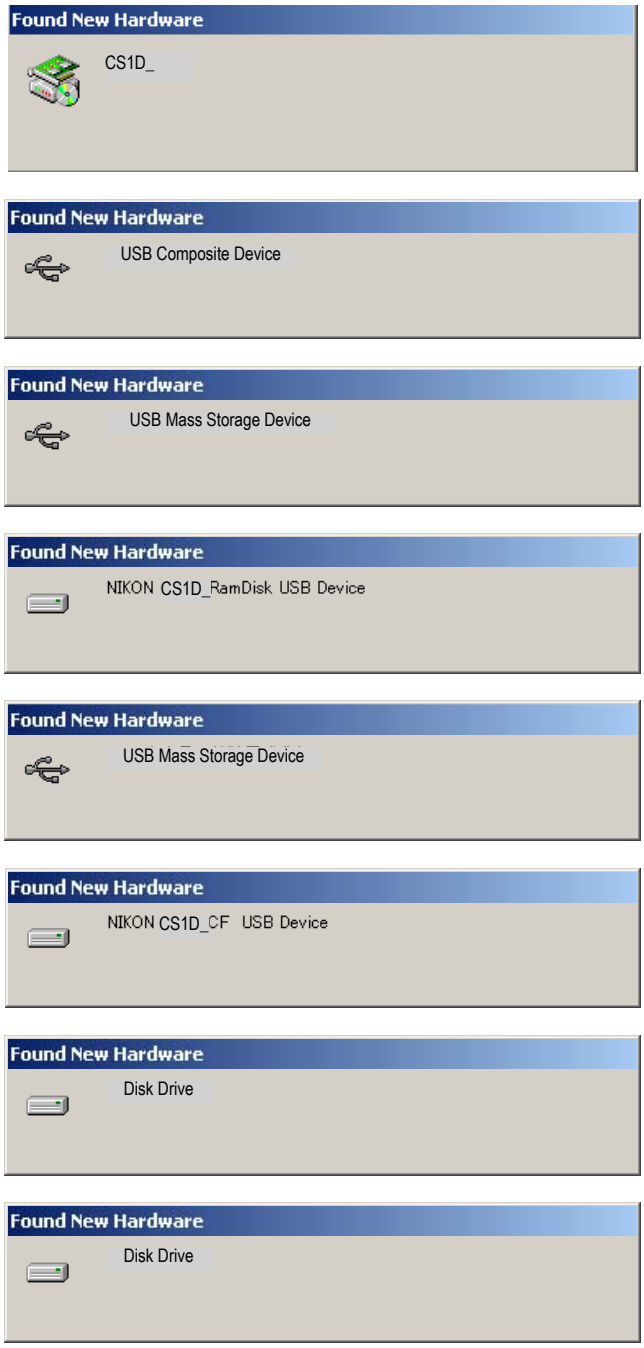
*	This function is not available unless Mass.S is selected in the USB Device section on the Power On Settings screen.
*	When the COOLSCOPE is operated through a network, the PC may not recognize the COOLSCOPE. In this case, the PC cannot read or write data correctly. Terminate the network connection. And then, connect the PC and the COOLSCOPE with a USB cable.

3.7.3 For Windows 2000

Installing the Device Driver

When the COOLSCOPE is connected to a PC for the first time, the PC automatically recognizes the COOLSCOPE and installs the device driver that comes standard with the OS.

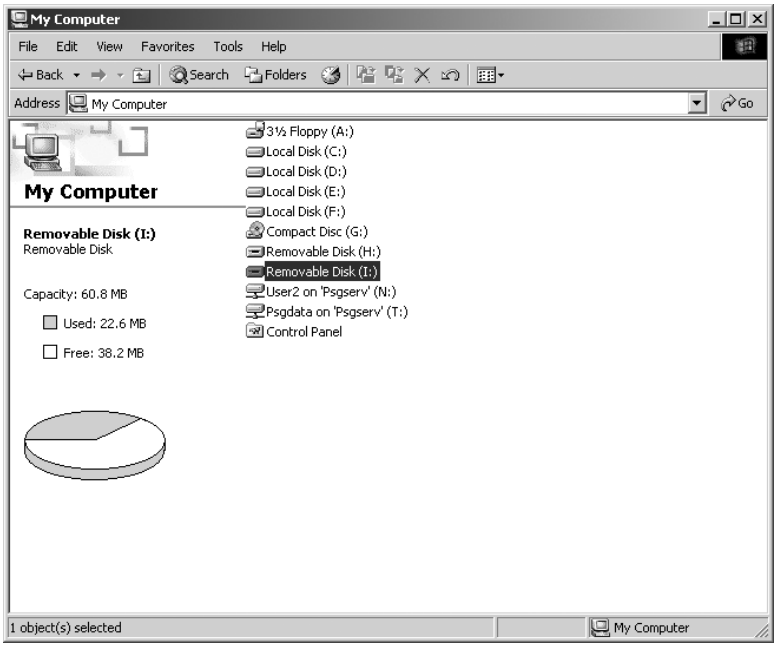
During the installation process, the window shown below will be displayed sequentially. You do not need to perform any specific operations.



Outline of the Disk Drive

When the COOLSCOPE is connected to a PC, the disk drive for the CF card, etc., and the internal image drive of the COOLSCOPE are each recognized as one removable disk by the PC.

When the COOLSCOPE is connected to a PC, two removable disks are displayed in [My Computer] on your PC's desktop.



The drive names of the removable disks differ with each PC environment.

---

* In the following cases, there might be a conflict between another connected device and the drive letter.

- A medium is inserted correctly into position, but the message "Please insert media" is displayed when you click the icon for the media drive
- A similar message is displayed when you click the icon for the CCD image drive.
- Connecting the COOLSCOPE immediately disables other USB device connected to the PC.

  In such a case, change the drive letter assigned to the media drive or the CCD image drive
  The following shows how to make this change.

(1) Select [Start] – [Control Panel] – [Administrative Tools] – [Computer Management] – [Disk Management].

(2) Right-click the volume whose drive letter you want to change and select [Change the drive letter and path].

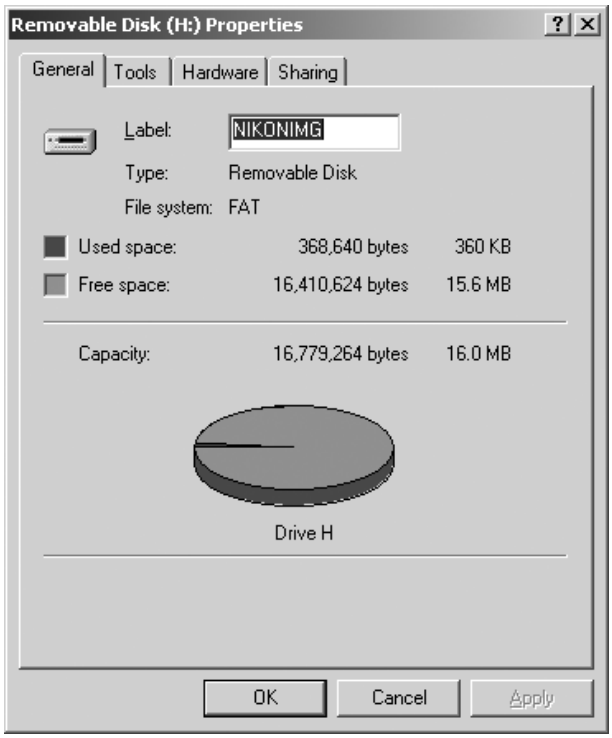
(3) Click [Edit] and choose one of unassigned drive letters from the select box or enter a drive letter directly from the keyboard and click [OK].

(4) Click [OK] in the ensuing confirmation dialog box.

How to identify the media drive and the CCD image drive

Right-click any removable disk icon on the My Computer screen to display its [Properties] dialog box. This dialog box helps you identify the drive assigned to that removable disk.

In the case of the CCD image drive, for example, it can be identified based on the volume label, "NIKONIMG," and its capacity, 16.0 MB, as shown below.



*	Note that because this drive is write protected, its volume label cannot be altered.

Using the Media Drive

Sending/receiving image files

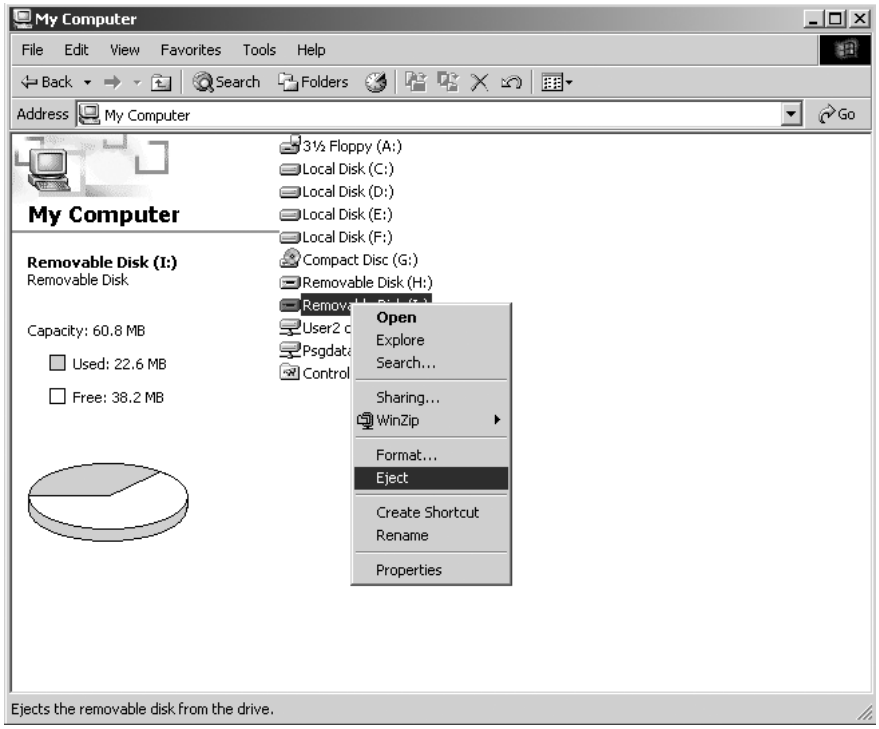
Insert media into the card slot of the COOLSCOPE and double-click the media drive (removable disk) icon on the My Computer screen to access the media.

The image files on the media drive can be retrieved from the media or transferred from the PC to other media files in the same way as files are normally manipulated on a PC.

Removing media

When the COOLSCOPE is connected to a PC, follow the procedure described below to remove the media from the media drive.

1) Check to see that the PC card indicator on the COOLSCOPE is turned off. Close the menus displayed on the COOLSCOPE.
2) If any image files have been loaded from the media into the PC, close all open image files on the PC.
3) Right-click the media drive (removable disk) icon on the My Computer screen and select [Eject].



4) Remove the media manually from the COOLSCOPE.

Using the CCD Image Drive

Receiving image files

Double-click the CCD image drive (removable disk) icon on the My Computer screen to access the internal [CS1D_IMG] folder of the COOLSCOPE.

The latest image files shot by the COOLSCOPE are stored in the [CS1D_IMG] folder, and these files can be downloaded to the PC.

*	Because the CCD image drive is read-only, no image files can be sent from the PC to the COOLSCOPE.

The image files whose size is specified in the SETUP menu displayed after right-clicking the [SAVE] button is stored in the CS1D_IMG.

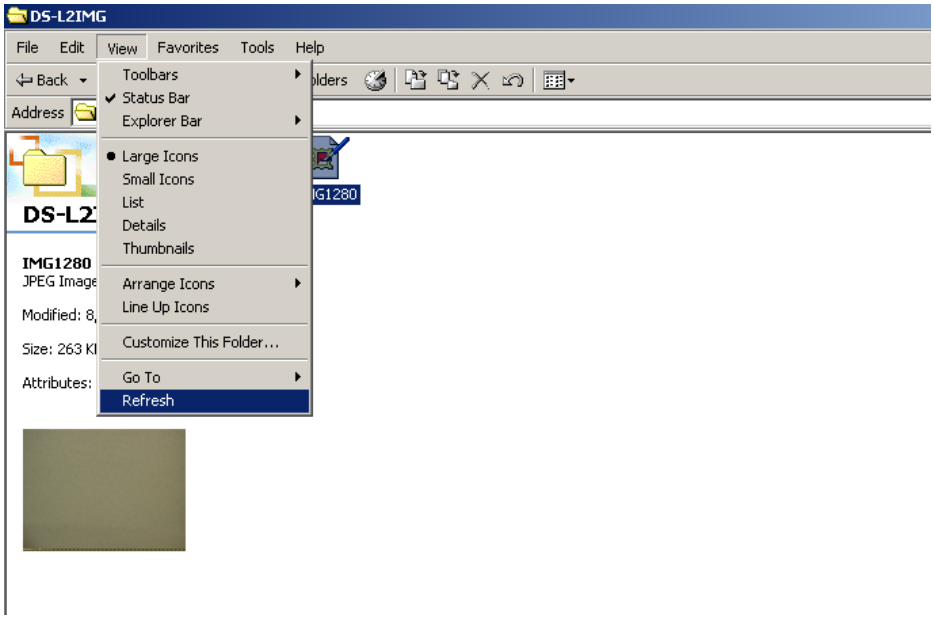
Example: IMG1280.bmp
IMG640.bmp

For detailed information on file settings, refer to Section 2, "Specifying the Image Storage Format, Storage Medium, File Name, and Label Illumination" in Chapter V.

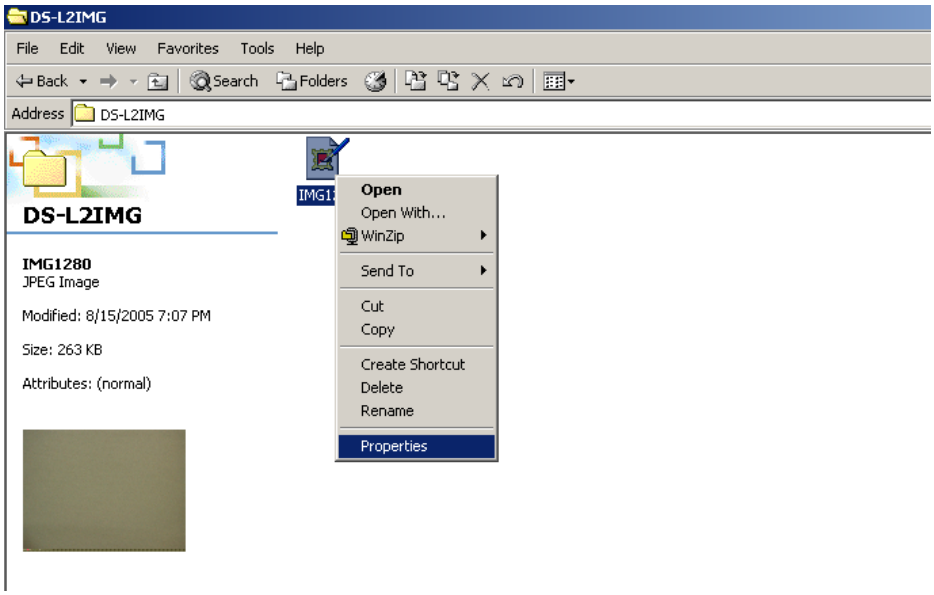
The image files stored in the [CS1D_IMG] folder are updated once every 5 seconds. Be aware that if files are read out at intervals shorter than 5 seconds, you will not always get the latest image. To confirm the time of day at which image files have been updated, follow the procedure described below.

Confirming the updated date/time of image files

1) Open My Computer and display image file icons. Then select [View] - [Refresh] to update the image file icons displayed.



2) Right-click any image file icon of interest and select [Properties] from the ensuing menu. The updated date and time will be displayed.



Removing the COOLSCOPE from the PC

Because the COOLSCOPE is connected via a USB interface, it can be removed from the PC even if the PC remains powered on. However, to prevent data from being corrupted by removing the COOLSCOPE during write operation, follow the procedure described below.

1) Eject the medium from the media drive before removing the COOLSCOPE.
2) Unplug the USB cable or turn off the power to the COOLSCOPE.
3) When the below is displayed, click [OK].

Unsafe Removal of Device
You have unplugged or ejected a device without stopping it. Unplugging or ejecting devices without first stopping them can often cause your computer to crash and lose valuable data.
To safely unplug or eject any of the following devices, first use the Hardware wizard in the Control Panel to stop the device.
USB Mass Storage Device
Generic volume
If you frequently need to unplug this device, Windows can give you an icon on the taskbar to quickly unplug or eject your device. If you would like to use this option, check the following:
Show Unplug/Eject icon on the taskbar.
2:01 PM
OK

Plug in the USB cable and turn on the COOLSCOPE. The device will be recognized by the PC again.

3.7.4 For Windows XP

Installing the Device Driver

When the COOLSCOPE is connected to a PC for the first time, the PC automatically recognizes the COOLSCOPE and installs the device driver that comes standard with the OS.

During the installation process, messages will be displayed sequentially in the task tray (system tray) at the lower right corner of the monitor screen, indicating that new hardware has been detected. You do not need to perform any specific operations.

When the [Safely Remove Hardware] icon is displayed in the task bar, it means the PC has finished installing the driver.

When the COOLSCOPE is connected to a USB 1.1-compliant USB port, the message shown below will be displayed in the task tray (system tray). This is not an error message. The COOLSCOPE will operate as a USB 1.1 device.

HI-SPEED USB Device Plugged into non-HI-SPEED USB Hub
A HI-SPEED USB device is plugged into a non-HI-SPEED USB hub.
For assistance in solving this problem, click this message.
Recycle Bin
NIKONIMG (I:)
1:41 PM

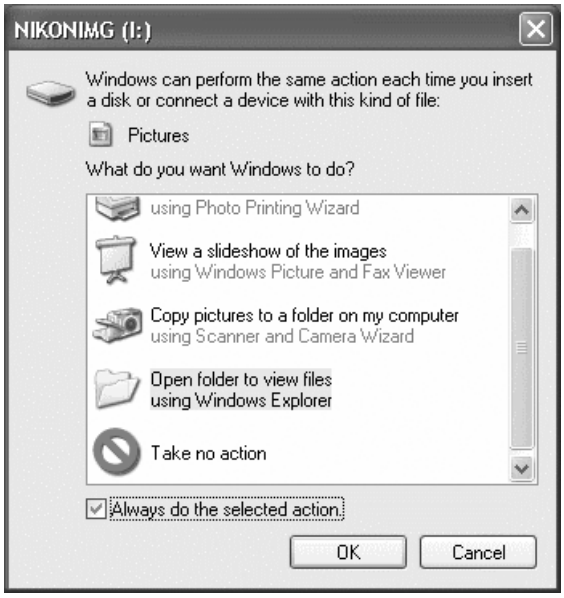
Outline of the Disk Drive

When the COOLSCOPE is connected to a PC, the disk drive for the CF card, etc., and the internal image drive of the COOLSCOPE are each recognized as one removable disk by the PC.

A screen may be displayed prompting for confirmation of how you want the removable disk to be handled by the OS.

For the media drive, this screen is displayed at the same time media is inserted into the media drive. For the CCD image drive, because it is labeled "NIKONIMG," this screen is displayed as shown below. The drive name differs with each PC environment.

In this confirmation screen, for either the CCD image drive or the media drive, select the "Open Folder to View Files Using Explorer" check box and the "Always Do the Selected Action" check box. Then click [OK] button.


NIKONIMG (I:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
Pictures
What do you want Windows to do?
using Photo Printing Wizard
View a slideshow of the images using Windows Picture and Fax Viewer
Copy pictures to a folder on my computer using Scanner and Camera Wizard
Open folder to view files using Windows Explorer
Take no action
Always do the selected action.
OK
Cancel

When you click [OK] button, the Explorer screen opens, showing the content of each drive.

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* In the following cases, there might be a conflict between another connected device and the drive letter.

- A medium is inserted correctly into position, but the message "Please insert media" is displayed when you click the icon for the media drive
- A similar message is displayed when you click the icon for the CCD image drive.
- When you connect the COOLSCOPE, other USB devices already connected to the PC immediately become unusable.
  In such a case, change the drive letter assigned to the media drive or the CCD image drive.
  The following shows how to make this change.

(1) Select [Start] – [Control Panel] – [Administrative Tools] – [Computer Management] – [Disk Management].

(2) Right-click the volume whose drive letter you want to change and select [Change the drive letter and path].

(3) Click [Edit] and choose one of unassigned drive letters from the select box or enter a drive letter directly from the keyboard and click [OK].

(4) Click [OK] in the ensuing confirmation dialog box.

Using the Media Drive

Receiving image files

Insert a medium into the card slot of the COOLSCOPE and display the explorer screen as shown in the previous section to read data from the medium. Or you can read the medium by double-clicking the media drive (removable disk) icon on the My Computer screen.

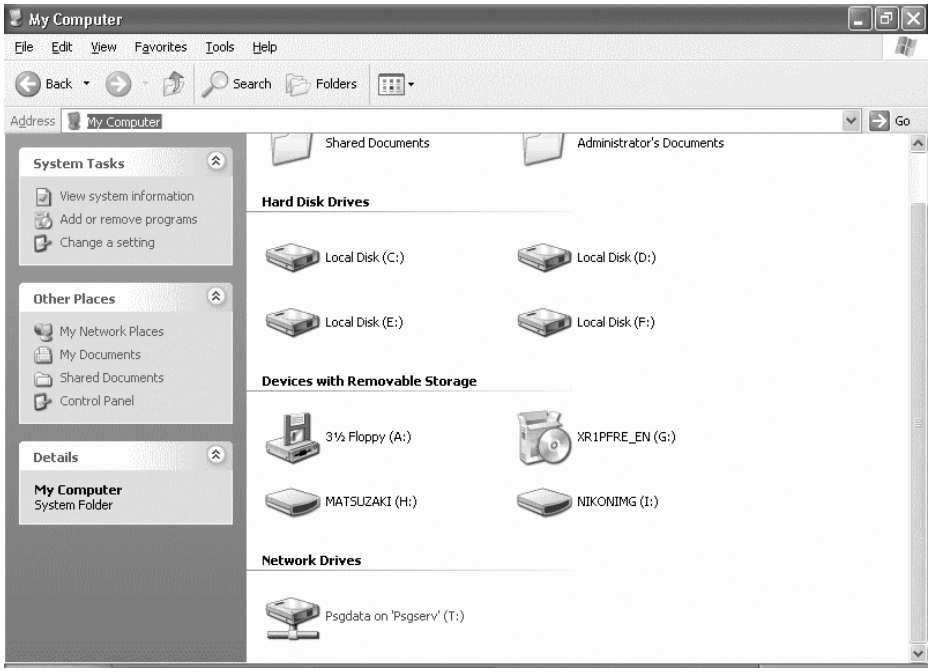
The image files on the media drive can be retrieved from the media in the same way for usual files on a PC.

Removing media

1) Check to see that the PC card indicator on the COOLSCOPE is turned off. Close the menus displayed on the COOLSCOPE.

2) If any image files have been loaded from the media to the PC, close all of the open image files on the PC.

3) Right-click the media drive (removable disk) icon on the My Computer screen and select [Eject].



4) Remove the media manually from the COOLSCOPE.

Using the CCD Image Drive

Double-click the CCD image drive (removable disk) icon on the My Computer screen to access the internal [CS1D_IMG] folder of the COOLSCOPE.

The latest image files that have been shot by the COOLSCOPE are stored in the [CS1D_IMG] folder, and these files can be downloaded to the PC.

*	Because the CCD image drive is read-only, no image files can be sent from the PC to the COOLSCOPE.

The image files whose size is specified in the SETUP menu displayed after right-clicking the [SAVE] button is stored in the CS1D_IMG. Alternatively, if the settings are updated on the REC menu, the updated size will be valid.

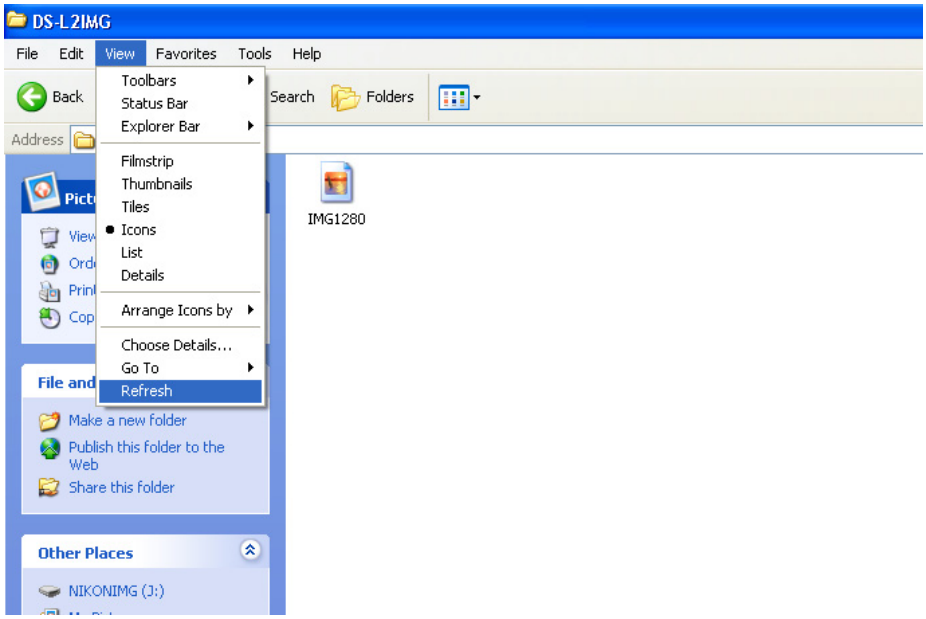
Example: IMG1280.bmp
IMG640.bmp

For detailed information on file settings, refer to Section 2, "Specifying the Image Storage Format, Storage Medium, File Name, and Label Illumination" in Chapter V.

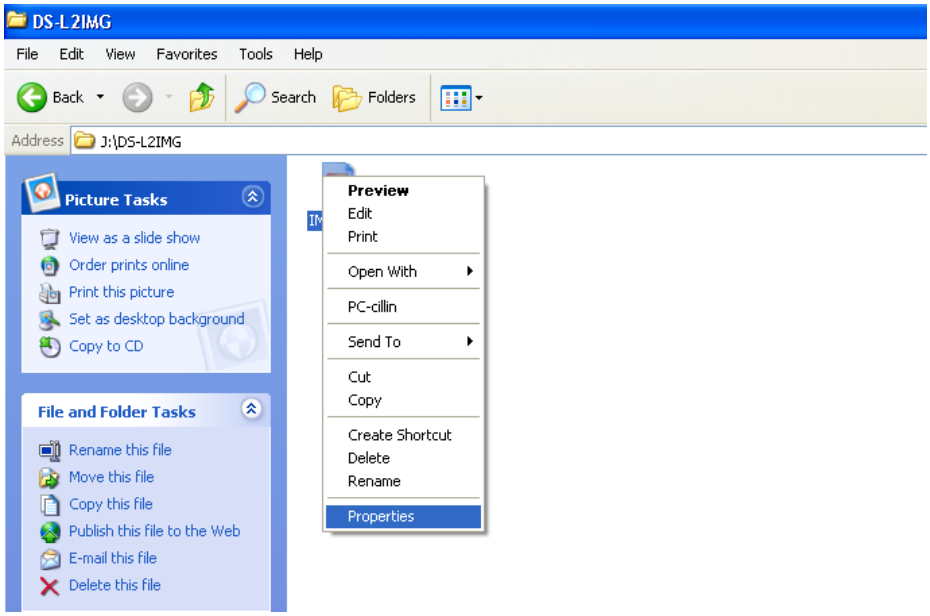
The image files stored in the [CS1D_IMG] folder are updated once every 5 seconds. Be aware that if files are read out at intervals shorter than 5 seconds, you will not always get the latest image. To confirm the time of day at which image files have been updated, follow the procedure described below.

Confirming the updated date/time of image files

1) Open My Computer and display image file icons. Then select [View] - [Refresh] to update the image file icons displayed.



2) Right-click any image file icon of interest and select [Properties] from the ensuing menu. The updated date and time will be displayed.



3.7.5 Removing the COOLSCOPE from the PC

Because the COOLSCOPE is connected via a USB interface, it can be removed from the PC even while the PC remains powered on. However, to prevent data from being corrupted while removing the COOLSCOPE during a write operation, follow the procedure described below.

1) Eject the media from the media drive before removing the COOLSCOPE.

2) Click the "Safely Remove Hardware" icon on the task bar.

3) Drives should be selected one at a time. First, select the media drive. If the media drive can be removed, the message shown below is displayed.

4) To remove the CCD image drive, follow step 3.

5) Unplug the USB cable or turn off the COOLSCOPE.

Plug in the USB cable and turn on the COOLSCOPE. It will be recognized by the PC again.

3.8 Using the Direct Print Function

3.8.1 Printout

When the left symbol of the [SAVE button], , shows , click the [SAVE] button to send the image directly to the printer.

3.8.2 Setting for the direct print function

Set the following for the direct print function:

1) Check the checkbox of [Pict.B] in the [USB Device] area in the [PowerOn Settings] submenu and then click the [SAVE] button.

2) Right-click on the [SAVE] button, . Check the checkbox of [Printer] in the [SAVE TO: media] and then click the [OK] button.

*	A macro image cannot be printed out with the direct print function.

Removing the COOLSCOPE from the PC

Because the COOLSCOPE is connected via a USB interface, it can be removed from the PC even while the PC remains powered on.
(For details, refer to "3.7.5 Removing the COOLSCOPE from the PC.")

IX

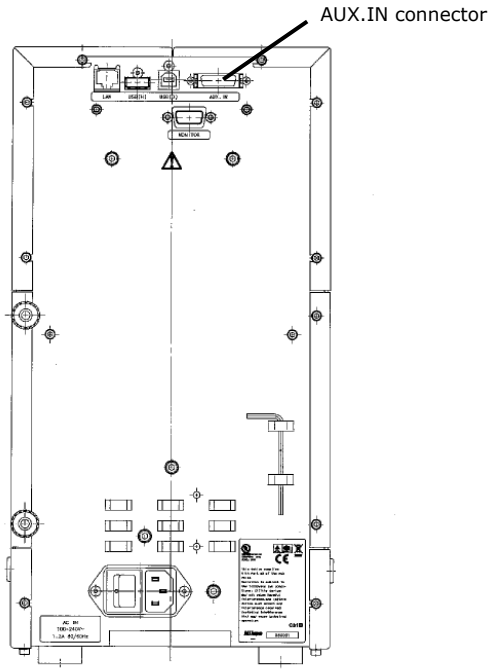
Using Optional Accessories

1 Ergonomic controller

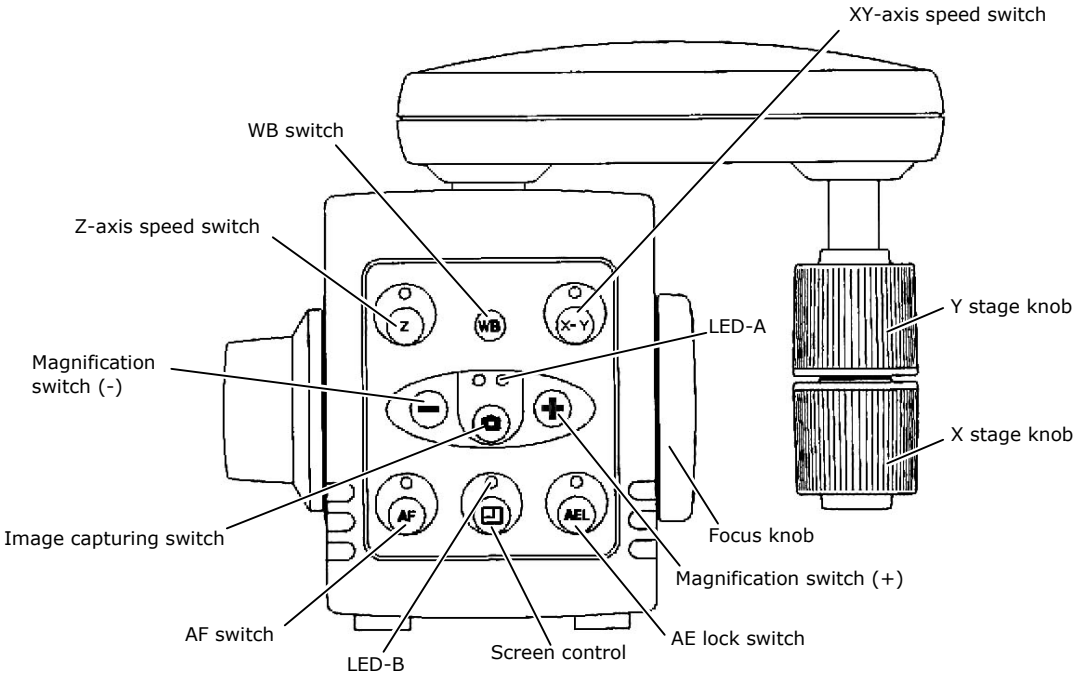
The ergonomic controller enables the movement, using the knob, of the observation position and the adjustment of the focus to be performed easier.

Connection procedure

Connect the ergonomic controller (D-ERG-C) cable to the AUX.IN connector on the rear panel of the COOLSCOPE.



Description of each part and operation procedure



D-ERG-C ERGO CONTROLLER FOR COOLSCOPE

Controls

Z-axis speed switch	Push here to change the Z-axis speed between fast and slow. The LED lights up when the fast speed is selected.
XY-axis speed switch	Push here to change the X-axis and Y-axis speed between fast and slow. The LED lights up when the fast speed is selected.
Magnification switch (-)	Push here to step down the magnification of the optical system.
Magnification switch (+)	Push here to step up the magnification of the optical system.
WB switch	Push here to adjust the white balence of the image.
Image capturing switch	Push here to capture an image. While capturing the image, the LED at the upper left of this switch lights up.
AF switch	Push here to focus on the specimen automatically. While focusing,the LED of this switch lights up.
Screen control	Push here to change the screen mode between the Multi screen and the Full screen.
AE lock switch	Push here to lock the automatic exposure. While locking the automatic exposure, the LED of this switch lights up.
Focus knob	Rotate this knob to focus on the specimen.
X stage knob	Rotate this knob to move the view point right and left on the screen.
Y stage knob	Rotate this knob to move the view point up and down on the screen.

LED status

LED-A	This LED lights up when the power is ON.
LED-B	This LED blinks during the white balance adjustment.

X

Connecting Peripherals

This chapter explains the minimum requirements for connection between the COOLSCOPE and peripherals.

1 Connecting Peripherals

Connection to projector

- COOLSCOPE and power cord
- Projector (SXGA: analog RGB input, 60 Hz TTL sync)
- Cable to connect the COOLSCOPE to the display (Image output for the COOLSCOPE is in analog RGB format and is transmitted via a D-sub 15-pin connector.)
- USB mouse

Direct connection to PC or server

- COOLSCOPE and power cord
- Display (SXGA: analog RGB input, 60 Hz TTL sync)
- Cable to connect the COOLSCOPE to the display (Image output for the COOLSCOPE is in analog RGB format and is transmitted via a D-sub 15-pin connector.)
- USB mouse
- Network cable (10/100BASE cross cable)

Connection to network

- COOLSCOPE and power cord
- Display (SXGA: analog RGB input, 60 Hz TTL sync)
- Cable to connect the COOLSCOPE to the display (Image output for the COOLSCOPE is in analog RGB format and is transmitted via a D-sub 15-pin connector.)
- USB mouse
- Network cable (10/100BASE cross cable)

Connection to USB printer

- COOLSCOPE and power cord
- Display (SXGA: analog RGB input, 60 Hz TTL sync)
- Cable to connect the COOLSCOPE to the display (Image output for the COOLSCOPE is in analog RGB format and is transmitted via a D-sub 15-pin connector.)
- USB mouse
- USB printer compatible with PictBridge
- USB hub

Connection to USB keyboard

- COOLSCOPE and power cord
- Display (SXGA: analog RGB input, 60 Hz TTL sync)
- Cable to connect the COOLSCOPE to the display (Image output for the COOLSCOPE is in analog RGB format and is transmitted via a D-sub 15-pin connector.)
- USB mouse
- USB keyboard
- USB hub

XI Troubleshooting

1 Error Messages

An error message may be displayed in the event of malfunction.

1.1 Drive errors

Message	Description	Remedy
line1: Objective switchover error. line2: Error Code: nLZC[1]～[7]	Objective switchover error An unsuccessful attempt was made to move the COOLSCOPE.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Optical path error line2: Error Code: nPDM[1]～[7]	Optical-path switchover error An unsuccessful attempt was made to move the COOLSCOPE.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Mag switchover error. line2: Error Code: nOBJ[1]～[7]	Magnification switchover error An unsuccessful attempt was made to move the COOLSCOPE.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Aperture stop error. line2: Error Code: nASC[1]～[7]	Aperture stop drive error An unsuccessful attempt was made to move the COOLSCOPE.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Position shift error line2: Error Code: nXYA[1]～[6] nXYB[1]～[6] nULD[1]～[6]、nX1P[1]～[6]、nX2P[1]～[6]、nXCP[1]～[6]	Stage XY-axes drive error An unsuccessful attempt was made to move the COOLSCOPE.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: End of movable range. line2: Error Code: nXYA7 nXYB7 nULD7、nX1P7 nX2P7、nXCP7	Stage XY-axes at the drive range limit An unsuccessful attempt was made to move the COOLSCOPE when it was at the drive range limit.	The COOLSCOPE cannot be moved further. Reverse the direction of motion.
line1: Focusing error. line2: Error Code: nZMA[1]～[6] nZMB[1]～[6]	Stage Z-axis drive error An unsuccessful attempt was made to move the COOLSCOPE.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.

Message	Description	Remedy
line1: Focus limit. line2: Error Code: nZMA7 nZMB7	Stage Z-axis at the drive range limit An unsuccessful attempt was made to move the COOLSCOPE when was at the drive range limit.	The COOLSCOPE cannot be moved further. Reverse the direction of motion.
line1: Macro light control error. line2: Error Code: nEMP[1]～[7]	Macro lighting-control error An unsuccessful attempt was made to turn on the lighting.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Macro light error. line2: Error Code: nMACBO	Macro lighting error The lighting was found to be "OFF" as a result of a status readout immediately after the lighting had been turned on.	The lamp is burnt out. Contact the distributor.
line1: Micro light control error. line2: Error Code: nLMP[1]～[7]	Micro lighting-control error An unsuccessful attempt was made to turn on the lighting.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Micro light error. line2: Error Code: nMICBO	Micro lighting error The lighting was found to be "OFF" as a result of status readout immediately after the lighting had been turned on.	The lamp is burnt out. Contact the distributor. The end response was not sent back to a control command. The microscope's board is unable to communicate.
line1: Communication error. line2: Error Code: !None	The end response was not sent back to a control command. The microscope's board is unable to communicate.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
line1: Device control error. line2: Error Code:	Control command execution errors other than the above An unsuccessful attempt was made to execute a control command other than the above.	Turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.

1.2 CF card, FTP-server, and printer errors

Message	Description	Remedy
No CF card.	No CF card was found.	Check whether the CF card is in the COOLSCOPE. If the problem persists with the CF card in the COOLSCOPE, turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
No saved data.	The NIKON folder is not found.	Image files captured using the COOLSCOPE are managed by the NIKON folder. Deleting the folder or moving files from this folder makes it impossible to retrieve files.
Media Full.	The medium is full and cannot save any more data.	Provide more available space in the medium. Turn on the COOLSCOPE again if the problem persists. If the problem persists after restart, contact the distributor.
Media Error	The medium is bad.	Replace the medium. Format the medium. Turn on the COOLSCOPE again if the problem persists. If the problem persists after restart, contact the distributor.
	No CF card was found.	Check whether the CF card is in the COOLSCOPE. If the problem persists with the CF card in the COOLSCOPE, turn on the COOLSCOPE again. If the problem persists after restart, contact the distributor.
Data not saved on FTP server.	Data cannot be saved to the FTP server.	Check the cables for proper connection. Check the external server's IP address. Turn on the COOLSCOPE again if the problem persists. If the problem persists after restart, contact the distributor.
Print Error.	Cannot print	Check the cables for proper connection. Check the printer power supply. Turn on the COOLSCOPE again if the problem persists. If the problem persists after restart, contact the distributor.
Illegal recall information file.	Recall information is invalid and cannot be recalled.	There is no remedy. (Recall information is managed by the folder selected at the time of recall registration. Do not change the folder configuration.)
Illegal recall information file.	The recall file is invalid and cannot be recalled.	There is no remedy. (Recall information is managed by the folder selected at the time of recall registration. Do not change the folder configuration.)

2 Handling Problems

If a malfunction is suspected, check the following.
If the problem persists or if the present problem is not shown in the list, contact your distributor.

No.	Problem	Check items
1	**Unable to turn on the power**	• Is the power cord properly connected? • Is an appropriate power cord used? • Is the side cover closed? • Is the main power switch at the rear turned on (set to the | position)?
2	**No image output**	• Are all cables properly connected? • Are all cables connected to appropriate terminals? • Is the display turned on?
3	**No mouse cursor appears on screen.**	• Is the mouse properly connected to the appropriate terminal?
4	**Micro image or macro image does not appear even when a slide is in the COOLSCOPE.**	• Is the slide glass of the correct size for the specimen slide used? • Is the specimen slide chipped on the corners or scratched? • Is the specimen slide held down with the holder?
5	**Blurred microscopic image**	• Is the image properly in focus? • Is the cover glass of the proper thickness for the specimen slide used? • Is the specimen slide's cover glass facing up? • Is the specimen slide dirty? • Is the COOLSCOPE exposed to much vibration during use?
6	**Macro image displaced at the center of the macro image area**	• Place the specimen slide properly on the tray. Bring the specimen slide in contact with the right side of the tray frame, and fix it in position using the specimen slide holder.
7	**Unable to turn off the power (shut down the COOLSCOPE)**	• Have you clicked on the on-screen [POWER OFF] button? • Is a specimen slide placed on the specimen slide tray? • Is there any dust or other foreign particles on the specimen slide holder?
8	**All on-screen buttons are disabled.**	• Set the main power switch at the rear of the COOLSCOPE to the O position to turn off the power. If there is a specimen slide in the ejected slide tray, take the slide out of the tray. Then set the main power switch to the | position to turn on the power. Wait for roughly 10 seconds and then press the power switch.
9	**The COOLSCOPE starts up when the main power is turned on without switching on the power switch.**	• Was the COOLSCOPE shut down properly? Always shut down the COOLSCOPE by clicking on the [POWER OFF] button on the screen. * The same symptom occurs when the remedial procedure is performed in the event that no on-screen buttons accept input.

3 Network Problems

Refer to "Chapter VIII Networking Functions" for details about network settings.

No.	Problem	Check items
1	**Cannot connect the system to a network.**	Follow the sequence shown below to check network settings. Check network cable connections (cables and hub) ↓ Check the set values (COOLSCOPE IP address and PC network settings) ↓ Check the presence in a LAN (ping from the PC) ↓ Check browser settings Check FTP settings **Checking network cable connections** <Checking types of cable> • Check that the twisted-pair cable for 10BASE-T or 100BASE-TX (category 5 or 5e) is used. • If the COOLSCOPE is connected to a LAN via a hub, check that straight cable is used. • If the COOLSCOPE is connected directly to a PC without going through a hub, check that crossed cables are used. <Checking hub connections> See the instruction manual supplied with the hub for details, and follow the description written in it. • Do not connect the COOLSCOPE to the Uplink. Be aware that Uplink on some hubs is indicated as "MDI," "≡," "Uplink-1 ×," "1-1 ×" or "8-8 ×." Also, if a hub has cross and straight ports, caution must be exercised. • There is a limited number of useful ports on a hub. Be careful when connecting to an empty port, because doing so could exceed the limit. **Checking the set values** <Settings on the COOLSCOPE> • Make network settings in Network Settings of the COOLSCOPE SETUP menu (e.g., Enable Network or IP Address). • Always be sure to make gateway settings if data communication between different network groups is to be performed (e.g., sending or receiving data to and from a distant place of business). <Settings on a PC> • When connecting from a PC that is not connected to a LAN, check the network settings on the PC first. • Set the IP address and other information specific to the PC.

No.	Problem	Check items
1	**Cannot connect the system to a network. (Continued from the preceding page)**	**Checking for presence in a LAN** <Using a command from PC to search for the COOLSCOPE in a LAN> Check network connections by using the "ping" command. • For Windows, select [Start] - [Programs] - [Accessories] - [Command Prompt] in that order, and enter the command from the prompt given below. • Mac OS X, select [Macintosh HD] - [Applications] - [Utilities] - [Terminal], and enter the command from the TERMINAL screen. Example: If the IP address of the COOLSCOPE is 192.168.10.2 Enter the command "ping 192.168.10.2" and hit the return key. If a message such as "Reply from 192.168.10.2: bytes=32 time…" is returned, it means that the presence of the COOLSCOPE in a LAN is recognized. The problem thus lies in the settings of the COOLSCOPE or PC. If a "Request timed out" message is returned, the presence of the COOLSCOPE is not recognized. Check the cables, hub connections, and the network settings of the PC (e.g., the IP address). Also check that the PC is connected to a LAN (by using a browser or the ping command).
2	**Cannot access the COOLSCOPE from a browser.**	• Set exception items in the browser's proxy settings.
3	**Images cannot be saved to an FTP server.** See "3.6 Saving Images to an FTP Server from the COOLSCOPE" in Chapter VIII.	**Checking the set values** <Settings on the COOLSCOPE> • Make network settings in Network Settings of the COOLSCOPE SETUP menu (e.g., Enable Network and IP Address). • Always be sure to make gateway settings if data communication between different network groups is to be performed, such as sending or receiving data to and from a distant place of business. <Settings on FTP server PC> • Check settings on the FTP server. Check FTP server functions Check access rights **Testing a connection (login) to the set server** After making network settings on the COOLSCOPE, perform a ping test and login test.
4	**No response after pressing the SAVE button when an FTP server is selected as the image destination.**	• Check the network cable and hub connections. • Select the Enable FTP Client check box in Network Settings of the SETUP menu.

No.	Problem	Check items
5	**Even though the SAVE button is pressed, the timer icon keeps running (for about 1 minute) and no images are sent.**	This is because the IP address of the External Server that has been set in Network Settings of the SETUP menu cannot be found. • Check the IP address of the server one more time. • If images are sent across a gateway, specify the Gateway address. • Use the ping test function to confirm.
6	**Even though the SAVE button is pressed, saving is immediately deactivated.**	This is because the COOLSCOPE has not logged in to the FTP server. • Check that the User ID and Password on the COOLSCOPE side and the user account on the server side match. • Check settings on the server side to see if the FTP server function is active. • Check settings on the server side to see if the server is enabled to write. • If images are sent across a gateway, specify the Gateway address. • Use the login test function to confirm whether logged in.
7	**Images cannot be saved to the FTP server even though the COOLSCOPE is connected to it and no errors are displayed.**	Check settings on the server side to see if the server is enabled to write.
8	**Images cannot be forwarded to the PC via a USB.**	• Check that the USB 1.1 interface board and USB 1.1 hub are based on USB 1.1 and the USB2.0 interface board and USB 2.0 hub are based on USB 2.0. • Check that the interface board and the COOLSCOPE are connected with a hub within a level in the tree structure. Using a hub within a level is recommended. • Check that the approved USB cable is used. Use the cable based on the USB 1.1 or USB 2.0 to use the COOLSCOPE with USB 1.1 and use the cable based on the USB 2.0 to use it with USB 2.0. • Check that the OS version is appropriate for USB interface. USB interface is not applicable to the Macintosh. Applicable OS Windows 2000 Service Pack 3 (SP3) or later Windows XP
9	**The product cannot be connected with the PC via a USB correctly.**	• Check that the USB host driver made by Microsoft is installed. Normal operation may not be performed due to the driver with a USB board.
10	**Same images appear when images on the PC are downloaded continuously via a USB.**	• Images are updated every 5 seconds. Notice that the latest image may not always be captured if files are read out at intervals shorter than 5 seconds.

No.	Problem	Check items
11	**Warning appears on the PC.**	• The warning "HI-SPEED USB Device Plugged into non-HI-SPEED USB Hub." is displayed in the task-tray (system tray) when connecting to the USB port based on the USB 1.1. Therefore, it is not an error. The COOLSCOPE functions as a device for USB 1.1.
12	**One of the following troubles occurs after connecting the COOLSCOPE to the PC.** • Although the CF card is inserted, the message "Insert Media" is displayed with the click of a media drive icon. • The same message is displayed with the click of a CCD image drive icon. • Other connected devices get unusable. • The COOLSCOPE is recognized as a device such as the camera instead of a storage when connected to the PC.	• The conflict over the drive letters may have occurred between the COOLSCOPE and the connected other USB devices. Change the drive letters referring to “Outline of the Disk Drive” in “3.7.3 For Windows 2000” in Chapter VIII. • The USB device operation method may have been set on Pict Bridge. Set the operation method on Must storage function referring to "3.1 Power On Setting submenu” in Chapter VII.
13	**A printer compatible with PictBridge cannot be used.** • PRINTER cannot be selected in [SAVE TO]. • The error message "PRINTER ERROR!" is displayed during printing.	• Check that the operation method of the USB device is set on Pict Bridge in Power On Settings of the SETUP menu. • Check that a printer compatible with PictBridge is connected to the USB(D) connector of the COOLSCOPE. • Check that the printer compatible with the COOLSCOPE is turned on. If the print icon cannot be clicked even when the printer is turned on, close the menu and turn on the printer again and then display the menu. • The printer cannot run normally due to a cause such as lack of papers or ink. Return the printer to normal condition referring the manual of the printer in use and restart the print operation in the menu.

XII

Service and Maintenance

1 Cleaning the COOLSCOPE

To avoid discoloration and fading of printed characters, do not use any organic solvents (e.g., alcohol, ethanol, thinner) on painted, plastic, and printed areas. Use of a silicon cloth is recommended. To clean the display and other peripherals, please refer to their respective instruction manuals.

2 Cleaning the Surface of the Glass on the Tray Bottom

Dirty surface of the glass on the tray bottom will degrade the image quality.

1) Press the green switch (specimen slide tray IN/OUT switch) at the front of the COOLSCOPE or click on the [EJECT] button on the screen to open the tray.

2) Turn off the main power by setting the main power switch at the rear of the COOLSCOPE to the O position, then detach the power cord plug from the outlet.

3) Clean with a soft, clean cotton cloth, lens tissue, or gauze dampened slightly with absolute alcohol (ethyl or methyl alcohol).

   - Wear rubber gloves and use tweezers to avoid biohazard contamination and injury caused by abrasion powder from the slide glass and broken pieces of the glass.
   - Follow the manufacturer's directions for use when using absolute alcohol.
   - Replacement is recommended if the glass is heavily stained or damaged. For replacement, contact the distributor.

4) Insert the power cord plug into the outlet. Then set the main power switch at the rear of the COOLSCOPE to the | position to turn on the main power.

   - The tray is retracted, initializing the COOLSCOPE.

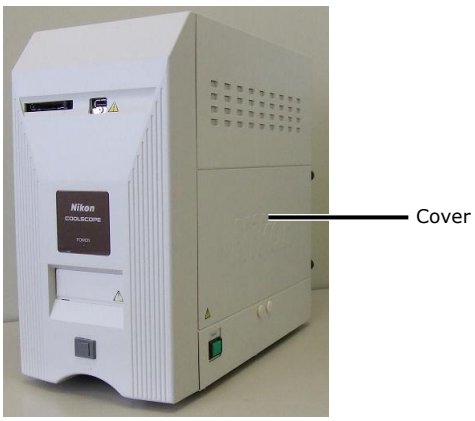
3 Cleaning the objective

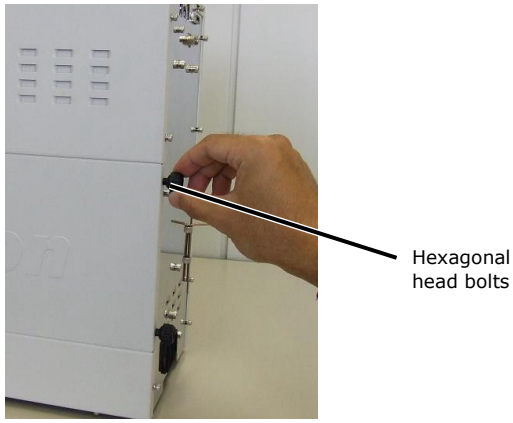
1) The power to the COOLSCOPE must be completely shut off before the objective is cleaned.

   - Right-click on the [POWER OFF] button on screen to shut down the COOLSCOPE.
   - Always remove the specimen slide.

2) Set the main power switch at the rear of the COOLSCOPE to the ○ position to turn OFF the main power, and remove the power-cord plug from the receptacle.

3) Detach the left and right side covers. To do so, loosen the two hexagonal head bolts on each side at the rear of the COOLSCOPE, and slide the covers backward.

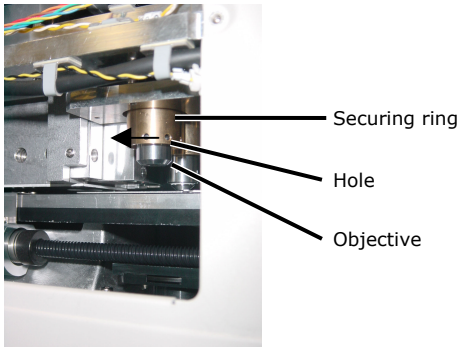




4) Detach the right-hand objective.

   - To do so, first loosen the securing ring from the right-side window in the direction indicated by the arrow. If the ring is difficult to rotate, slip the supplied hex wrench into the hole on the securing ring, and turn the ring.
   - Turn the objective in the direction indicated by the arrow in the figure.

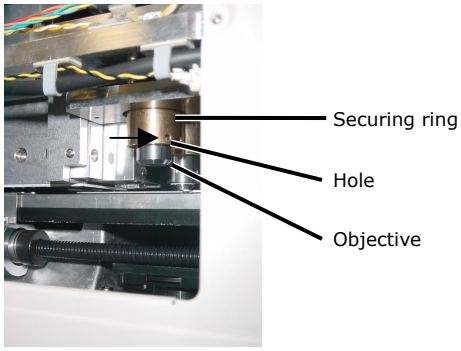
Right side



5) Wipe any stains off the edge lens of the objective.

- Wear rubber gloves to avoid biohazard contamination.
- Use a soft, clean cotton cloth, a lens tissue, or gauze slightly dampened with pure alcohol (ethyl or methyl alcohol).
- Handle the pure alcohol carefully in accordance with the manufacturer's directions.

6) Reattach the objective and the securing ring at their initial positions. To do so, screw them in by turning them in the direction indicated by the arrow in the figure.



7) Detach the left-hand objective.

- To do so, detach the left-hand cap from the COOLSCOPE using the supplied hex wrench, and turn the internal bolt counterclockwise as far as it will go.

Left side

- Push in the objective to the left from the right-side window.
- Detach the securing ring and the objective from the left-side window, as in the case of the right-hand objective.

8) Wipe any stains off the edge lens of the objective, and attach the objective and securing ring.

- Wear rubber gloves to avoid biohazard contamination.

9) Reattach the covers, and secure them in position with rear surface bolts using the supplied hex wrench.

10) Reattach the left-hand cap to the COOLSCOPE.

11) Insert the power-cord plug into the receptacle. Then, set the main power switch at the rear of the COOLSCOPE to the | position to turn ON the main power.

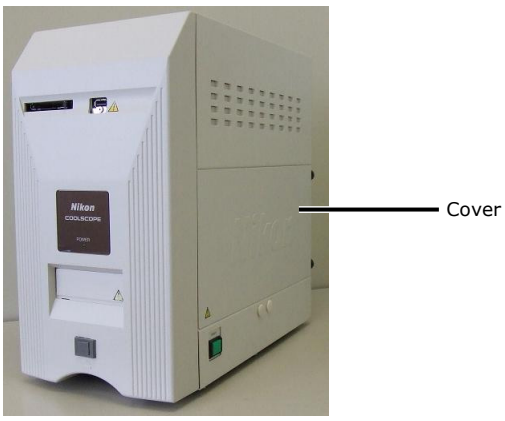
4 Decontaminating the Microscope

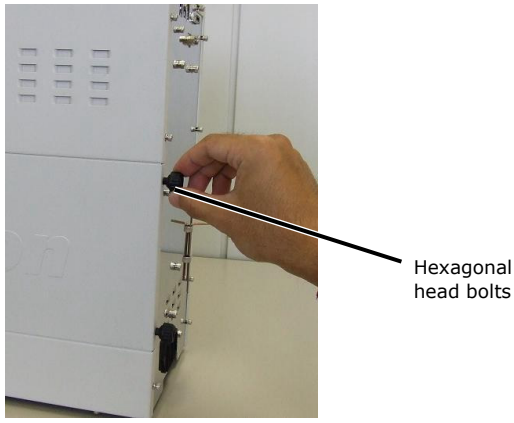
Normally, use 70% medical alcohol for decontamination. If the specimen is spilled, check whether it is hazardous. If so, handle the spill according to the standard procedure used by the laboratory. Use of organic solvent may discolor plastic components.

5 Removing the specimen slide if it is accidentally left in the COOLSCOPE

If the specimen slide is accidentally left in the COOLSCOPE due, for example, to malfunction, follow the steps described below to remove it.

1) Set the main power switch at the rear of the COOLSCOPE to the O position to turn OFF the main power.





2) Detach the left and right side covers. To do so, loosen the two hexagonal head bolts on each side at the rear of the COOLSCOPE, and slide the covers backward.

3) Check the position of the specimen slide left inside the COOLSCOPE from the left side window. If the objective is located toward the front, push it in to the right.

4) If the specimen slide holder is located more toward the front than the window, slide the specimen slide toward the front and push it out. As the door begins to open, completely remove the specimen slide while holding the door by hand. Wear rubber gloves to avoid biohazard contamination and injury.

5) If the specimen slide holder is located in front of the window, slide the specimen slide forward until it reaches a point at which it can be easily picked up, and remove it using tweezers. Wear rubber gloves to avoid biohazard contamination and injury.

6) Reattach the covers at their initial positions.

6 Transporting (Clamping)

When transporting the COOLSCOPE by automobile, follow the steps described below to clamp the mobile sections in place.
Three sections — A, B, and C — need to be clamped.

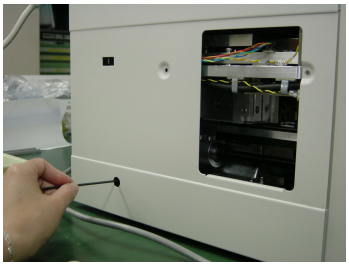
You must completely shut off the power to the COOLSCOPE before clamping.

1) Click on the [POWER OFF] button on screen to terminate your tasks.
   - Always remove the specimen slide.
2) Press the power switch on the right side of the COOLSCOPE.
3) Wait for roughly 10 seconds and set the main power switch at the COOLSCOPE rear to the O position to turn off the main power, then detach the power cord plug from the outlet.

Caution!	Next time the main power is turned on, the COOLSCOPE will start up without pressing the power switch on the right side.

Clamping section A

1) Detach the cap from the left side of the COOLSCOPE and fully turn the two internal bolts counterclockwise with the supplied hex wrench.



Left side

Caution!	To prevent malfunction, be sure to operate the work in 1) and then operate the work in 2).

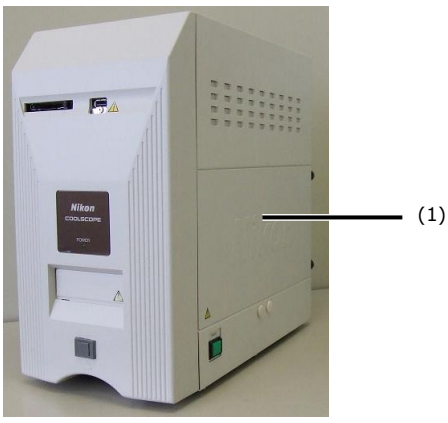
2) Detach the two caps from the right side of the COOLSCOPE and fully turn the two internal bolts clockwise with the supplied hex wrench.
3) Reattach the caps in their original positions.

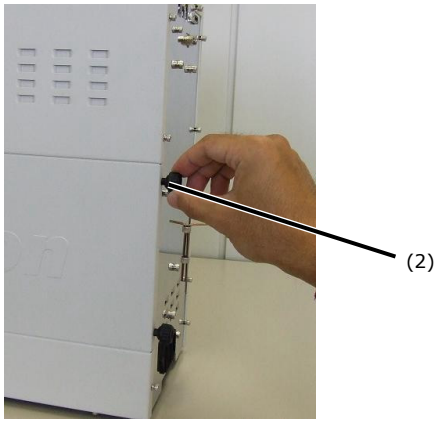
Clamping sections B and C

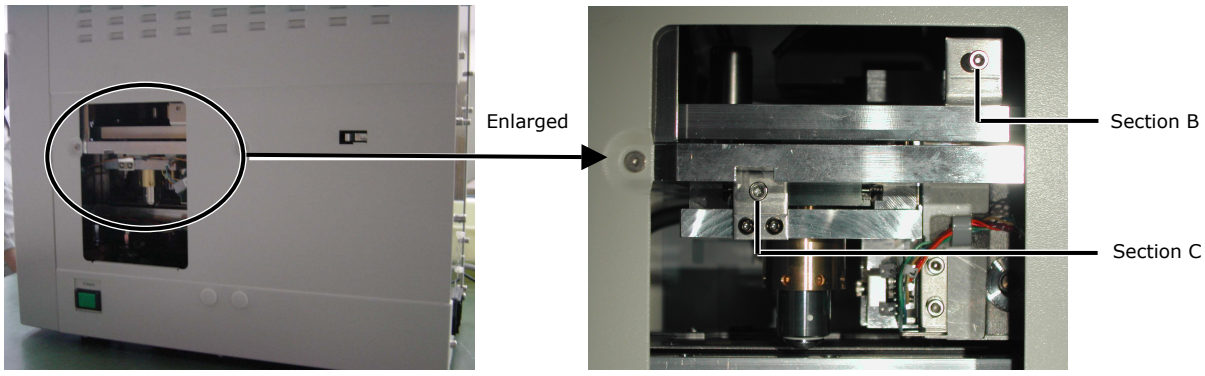
1) Detach the right cover.
   To do this, loosen the two hexagon head bolts at the COOLSCOPE rear and slide the cover backward.

2) With the supplied hex wrench, screw one clamping bolt each fully into each of sections B and C clockwise.

3) Reattach the cover to its original position and use the supplied hex wrench to secure it with the bolts at the rear.







The cover (1) on the right side is detached.

7 Storage

If you do not intend to use the COOLSCOPE for an extended period, turn off the main power by setting the main power switch to the O position, then detach the power cord from the outlet.
Store the device in a dry location where mildew will not readily develop.

XIII

Specifications and Confirming Standards

1 Specifications

NIKON digital microscope COOLSCOPE

Model	CS1D	CS1DW
Observable specimen	Cover-glass-equipped specimen slide Thickness: 0.9 to 1.7 mm (slide glass + specimen; cover glass thickness not included) • Slide glass (Be sure to use a JIS R3703-1998 or ISO 8037/1-1986-compliant glass.) Thickness: 0.9 to 1.2 mm Width: 25 to 26 mm Length: 75 to 76 mm • Cover glass (Be sure to use a JIS R3702-1996 or ISO 82551-1986-compliant glass.) [JIS R3702] Thickness: No.1:0.12 to 0.17mm No.1-S:0.15 to 0.18mm [ISO 8255] Thickness: No.1:0.13 to 0.17mm No.1-H:0.15 to 0.17mm	
Observation method	Bright field transmitted observation	
Possible observation range	Entire specimen slide surface (26 X 76 mm)	
Light source	White LED	
Image capture device	2/3-inch square pixel 524 mega pixels interline CCD 5.9 fps (5M interlace scan) 10.0 fps (1.3M interlace scan)	
Camera section	Exposure control: Programmed AE (AE lockable) Metering method: Average metering, peak-hold metering, selecting the location or size of the metering area White balance: manual setting type, color balance adjustable Color correction: gamma (tone), black level, saturation, hue, special effects (monochrome, reverse) Image correction: shading correction, noise control, edge enhancement	

Displayed image	Macro image: Entire specimen slide image Micro image: Partially enlarged image Image switching: Multi screen (with the macro image)/Full screen (without the macro image), CF card image reproduction, CF card thumbnail display	
Micro image	Optical magnification: 5X, 10X, 20X, 40X	Optical magnification: 2X, 4X, 20X, 40X
	Digital variable magnification: 1X, 1.4X, 2X, 2.8X, 4X, 16X Scene modes: HE stain, papanicolaou stain, azan stain, and 7 custom modes Others: Scale display, freeze-frame image	
Micro-optical system	Chromatic-aberration-free infinity system	
Observation information storage function	Storable information sets: 12 (per specimen slide) Information stored: Observation position, focus, magnification, aperture stop, brightness	
Aperture diaphragm	25% to 100% (5% steps)	65% to 100% (5% steps)
Focus	Manual and auto focus	
Image output	Analog RGB SXGA (1,280 X 1,024 @60Hz non-interlaced) Connector: Mini D-sub 15-pin	
Image recording	Recording medium: CF card (one 32-MB card supplied) Recorded image file format: BMP 24 bit, JPEG-compliant (compression mode: FINE, NORMAL, BASIC) Image size: 2,560 x 1,920, 1,280 x 960	
Interface	CF card: Type I, Type II USB2.0 host: USB mouse, USB keyboard, USB printer connection USB2.0 device: compatible with the Mass storage class, connectable to a printer compatible with PictBridge Network: IEEE802.3-compliant 10BASE-T/100BASE-TX, DHCP supported HTTP server, Telnet server, FTP server, FTP client	
Input ratings	100-240 V AC, ±10%, 50/60 Hz, 1.2 A max.	
Power cord	• 100-120 V areas (excluding Japan): UL Listed detachable cord set (3-conductor grounding; Type SVT, NO. 18 AWG, maximum length of 3 m, rated at 125 V AC minimum) • 220-240 V areas: EU/EN-approved 3-conductor power-cord set (3-conductor grounding; Type HO5VV-F, maximum length of 3 m, rated at 250 V AC minimum) • Japan: Power cord set that conforms to the Electrical Appliance and Material Control Law (with PSE mark) (3 conductor grounding Type KP300 KS-16A VCTF 3x0.75mm^2 3m long maximum rated at 125V AC minimum)	

Operating environmental conditions	Temperature: 0° C to +40° C Humidity: 85% RH max. Altitude: 2,000 m max. Pollution degree: Degree 2 Installation: Category II Electric-shock protection class: Class I Indoor use only
Storage environmental conditions	Temperature: -20° C to +60° C Humidity: 90% RH max. (no condensation)
Outer dimensions and weight	Outer dimensions: 184 mm (W) x 358 mm (H) x 383 mm (D) (not including protrusions) Weight: Approx. 18.5 kg
Product safety	• UL Listed Product (Compliance with which UL standard, UL61010A-1) • FCC 15B Class A satisfied. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant Part 15 of the FCC Rules. These limits are designed provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, and can radiated radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference own expense. • Canadian Standard This class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada. • Australia EMI directive: AS/NZS CISPR11 Group1 ClassB CE Marking • In vitro diagnostic medical device directive satisfied. • GM approved product: In vitro diagnostic (IVD) medical equipment. Compliance with which EN standards, EN61010-1, EN61010-2-101, EN591, EN1658 and EN60825-1. • Low voltage directive satisfied. EN61010-1, EN60825-1 • EMC Compliance with which EN EMC standards, EN61326 (EN55011 Group 1 Class B, EN61000-3-2/3-3/4-2/4-3/4-4/4-5/4-6/4-8/4-11)